Service Manual

Nokia Display Products Oy
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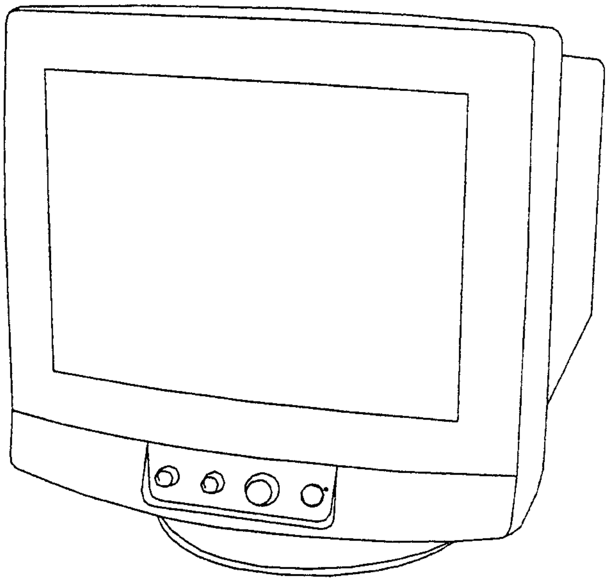
Chassis 447G

17” 96/86 kHz High – end display Colour Monitor
447XPro/447XiPlus



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Service
Monitor Dismantling
Part List
PCB Part List
PCB Layout pictures

Level	1	2
Main Board module	SMA203C/210C/211C/212C	SMA203D/210D/211D/212D
CRT module	SMH147C	SMH147C
USB module	SMY040C	SMY040C

Level	3
Main Board module	SMA203F/210F/211F/212F/229F
CRT module	SMH147C
USB module	SMY040D

When re–ordering manuals, please quote the model name and part number.

ZB1579
03.98

Service

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Revision History

Rev	Date	Prepared by	Comments
10.97	15.10.97	A.Ahola	
01.98	30.01.98	A.Ahola	SMA D–version added
03.98	27.03.98	A.Ahola	447XiPlus added Image performance added

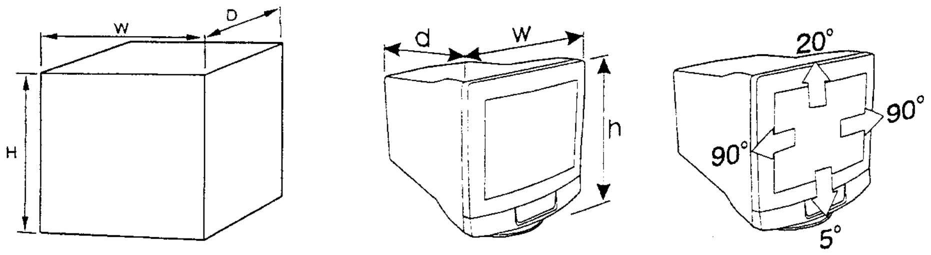
1. Product Overview

447G is a 17 inch monitor. The maximum resolution of 1600 x 1200 (XPro),1280 x 1024 (XiPlus) makes the monitor suitable for PC, Macintosh and workstation applications in normally heated, ventialed and controlled office/home environment. The monitor has an own power supply with input voltage requirements from 90V to 264V.

1.1. Technical Specifications

Cathode Ray Tube	17" in diagonal, 90° deflection angle Dark, non–glare, antistatic coating Short persistence (P22) Dot pitch 0.26 mm
Picture Size	300 mm x 225 mm with specified geometric distortion
Maximum Picture Size	324 mm x 238 mm, diagonally 402 mm (15.82")
Power Input Requirements ...	Voltage 90–264 V, 50/60 Hz Autosense Current 2.3 A/110 V, 1.1 A/240 V
Power Dissipation	< 90 W Normal Operation < 75 W Stand–by < 30 W Suspend < 5 W Auto power off < 0.5W Manual off
Memory Locations	13 for factory preset timings 5 for user adjusted timings
Geometric Distortion	The distance between bezel and active screen edge shall not vary more than 2 mm in both vertical and horizontal dimensions
Luminance	Min. 100 cdm^{-2} at center, with full white field
Video Input	Input Signal: RGB, analog, positive, max 0.7 V/75 Ω Horizontal addressability: 1600 dots maximum (XPro) Vertical addressability: 1200 dots maximum (XPro) Horizontal addressability: 1280 dots maximum (XiPlus) Vertical addressability: 1024 dots maximum (XiPlus)
Synchronization Range	Horizontal: 30 kHz to 96 kHz automatic (XPro) Horizontal 30 kHz to 86 kHz automatic (XiPlus) Vertical: 50 Hz to 150 Hz automatic
Synchronization Signal	Separate TTL, positive/negative Composite TTL, positive/negative Composite, on green 0.3 Vpp negative
Max. Dot Frequency Capability	157.5 MHz
Temperature	Operating: +10°C to +40°C Packed: –20°C to +60°C
Humidity	Operating: 15% to 85 % Packed: 5% to 95 %
Weight	19 kg net 22 kg gross

Size, Tilt and Swivel


W
D
H
d
W
h
20°
90°
90°
5°

Dimensions

Monitor	h	428 mm
	w	424 mm
	d	445 mm
Package	H	567 mm
	W	540 mm
	D	596 mm

Audio (Optional)

Audio output powers

Audio power amplifier is designed for 2*3 W output power with 16 ohm load.

Amplifier(s) RMS power / channel (s)	2*3 W
Line level input at clipping	3.0 Vpp
Headphone impedance	16–600 ohm

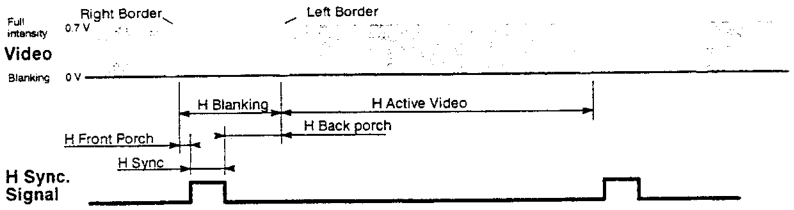
Microphone

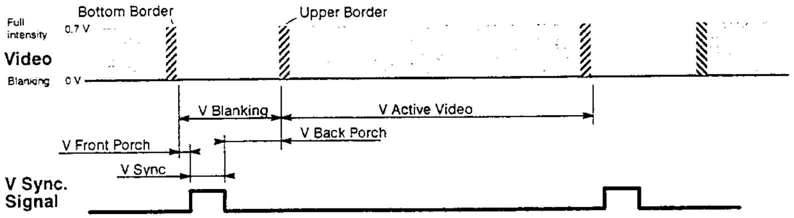
Internal mic type	electret condenser with enhanced directivity
Mic amplifier gain	nominal 40dB
Mic output level	adjustable 0–2Vpp
External input type	dynamic, electret condenser

Speaker

Nominal power	5 W
Nominal impedance	16 ohm
Frequency range, useable area	150 hz – 18 kHz
Number of elements	two pcs
Type of element	fullrange
Enclosure(s) type	backdamped freeairbox

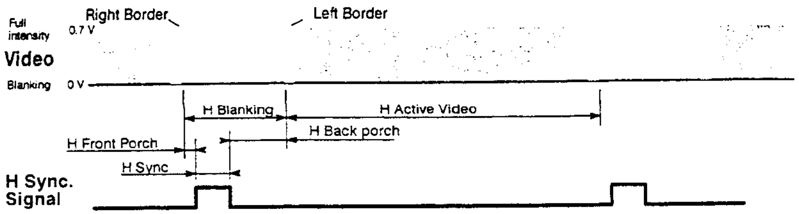
1.2. Preset Display Modes 447Xpro

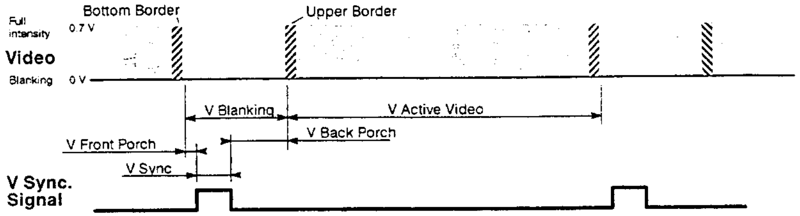

Right Border
Left Border
Full intensity
0.7 V
Video
Blanking
0 V
H Blanking
H Active Video
H Back porch
H Front Porch
H Sync
H Sync.
Signal


Bottom Border
Upper Border
Full intensity
0.7 V
Video
Blanking
0 V
V Blanking
V Active Video
V Back Porch
V Front Porch
V Sync
V Sync.
Signal

Memory location->	0	1	2	3	4	5	6	7
Display Mode Name	NCE612	NCE513	NCE013	NCE406	NCE300	NCE502	NCE605	NCE712
H Frequency/kHz	91.146	68.677	79.494	46.875	31.472	52.491	79.976	93.755
H Period/µs	10.971	14.561	12.904	21.333	31.774	17.702	12.504	10.666
H Active Video/µs	8.127	10.836	9.481	16.162	25.420	13.650	9.481	7.901
H Resolution	1280	1024	1.52	800	640	1024	1280	1600
H Sync/µs	1.02	1.02	1.05	1.616	3.81	1.81	1.062	0.948
H Back Porch/µs	1.52	2.20	1.84	3.232	1.91	1.92	1.043	1.501
V Frequency/Hz	85.0	85.0	85.1	75	59.9	70.1	75	75.0
V Period/Lines	1072	808	911	625	525	806	1066	1250
V Resolution	1024	768	864	600	480	768	1024	1200
V Sync/Lines	3	3	3	3	2	6	3	3
V Back Porch/ Lines	44	36	43	21	33	29	38	46
H sync Polarity	+	+	+	+	–	–	+	+
V sync Polarity	+	+	+	+	–	–	+	+
H Front Porch/µs	0.31	0.51	0.53	0.32	0.64	0.32	0.12	0.32
V Front Porch/ Lines	1	1	1	1	10	3	1	1
Dot Frequency/ MHz	157.500	94.500	121.510	49.500	25.177	75.020	135.640	202.510
Interlacing	no	no	no	no	no	no	no	no

Preset Display Modes 447G551,447G559 (447XiPlus)


Right Border
Left Border
Full intensity 0.7 V
Video
Blanking 0 V
H Blanking
H Active Video
H Back porch
H Front Porch
H Sync
H Sync. Signal


Bottom Border
Upper Border
Full intensity 0.7 V
Video
Blanking 0 V
V Blanking
V Active Video
V Back Porch
V Front Porch
V Sync
V Sync. Signal

Memory location->	0	1	2	3	4	5
Display Mode Name	NCE605	NCE513	NCE013	NCE406	NCE300	NCE502
H Frequency/kHz	79.976	68.677	79.494	46.875	31.472	52.491
H Period/µs	12.504	14.561	12.904	21.333	31.774	17.702
H Active Video/µs	9.481	10.836	9.481	16.162	25.420	13.650
H Resolution	1280	1024	1.52	800	640	1024
H Sync/µs	1.062	1.02	1.05	1.616	3.81	1.81
H Back Porch/µs	1.043	2.20	1.84	3.232	1.91	1.92
V Frequency/Hz	75	85.0	85.1	75	59.9	70.1
V Period/Lines	1066	808	911	625	525	806
V Resolution	1024	768	864	600	480	768
V Sync/Lines	3	3	3	3	2	6
V Back Porch/ Lines	38	36	43	21	33	29
H sync Polarity	+	+	+	+	–	–
V sync Polarity	+	+	+	+	–	–
H Front Porch/µs	0.12	0.51	0.53	0.32	0.64	0.32
V Front Porch/ Lines	1	1	1	1	10	3
Dot Frequency/ MHz	135.640	94.500	121.510	49.500	25.177	75.020
Interlacing	no	no	no	no	no	no

1.3. S–Capacitor table

F/kHz	PA6	PA5	PA4	PA3	PA2	PA1	PA0	Lin
	0	0	0	0	0	0	1	3,56 V
88.889								
	0	0	0	0	0	1	0	
83.333								3,32 V
	0	0	0	0	0	1	1	
78.431								
	0	0	0	0	1	0	0	
74.074								
	0	0	0	0	1	0	1	
71.429								2,98 V
	0	0	0	0	1	1	0	
67.797								
	0	0	0	0	1	1	1	
64.516								
	0	0	0	1	0	0	0	
61.538								2,7 V
	0	0	0	1	0	1	1	
56.338								
	0	0	0	1	1	0	0	
55.556								
	0	0	0	1	1	0	1	
54.054								
	0	0	0	1	1	1	0	
52.632								
	0	0	0	1	1	1	1	
51.948								
	0	0	1	0	0	0	0	
50.633								
	0	0	1	0	0	0	1	
50.000								
	0	0	1	0	0	1	0	
48.780								
	0	0	1	0	0	1	1	
47.059								
	0	0	1	0	1	0	1	
46.512								
	0	0	1	0	1	1	0	
45.977								
	0	0	1	0	1	1	1	
44.944								
	0	0	1	1	0	0	0	
44.444								2,5 V
	0	0	1	1	0	0	1	
43.956								
	0	0	1	1	0	1	0	
43.011								

F/kHz	PA6	PA5	PA4	PA3	PA2	PA1	PA0	Lin
43.011								2,5 V
	0	0	1	1	0	1	1	
42.553								
	0	0	1	1	1	0	0	
42.105								
	0	0	1	1	1	0	1	
41.667								
	0	0	1	1	1	1	0	
41.237								
	0	0	1	1	1	1	1	
40.404								
	0	1	0	0	0	0	0	
40.000								
	0	1	0	0	0	0	1	
39.604								
	0	1	0	0	0	1	0	
39.216								
	0	1	0	0	0	1	1	
38.835								
	0	1	0	0	1	0	0	
38.462								
	0	1	0	0	1	0	1	
38.095								
		1	0	0	1	1	0	
37.736								
		1	0	0	1	1	1	
37.037								
		1	0	1	0	0	1	
36.697								
		1	0	1	0	1	0	
36.364								
		1	0	1	0	1	1	
36.036								
		1	0	1	1	0	0	
35.714								
		1	0	1	1	0	1	
35.398								
		1	0	1	1	1	1	
35.088								
		1	1	0	0	0	0	
34.783								
		1	1	0	0	0	1	
34.483								
		1	1	0	0	1	0	
34.188								
		1	1	0	0	1	1	
33.898								
		1	1	0	1	0	0	
33.613								
		1	1	0	1	0	1	

F/kHz	PA6	PA5	PA4	PA3	PA2	PA1	PA0	Lin
33.333								2,5 V
		1	1	0	1	1	1	
33.058								
		1	1	1	0	0	0	
32.787								
		1	1	1	0	0	1	
32.520								
		1	1	1	0	1	0	
32.258								
		1	1	1	0	1	1	
32.000								
		1	1	1	1	0	1	
31.746								
		1	1	1	1	1	0	
31.496								
		1	1	1	1	1	1	
15.686								

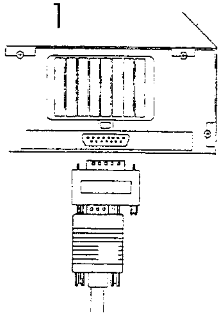
1.4. Monitor Connection

Make sure that the monitor is disconnected from mains and the power switches of the computer and all attached devices are turned off before connecting the monitor.

- Connect the signal cable plug to the videocontroller connector at the back of the computer.
- Tighten the screws on the plug by hand.
- Connect the power cord first to the monitor and then to a grounded power outlet.

If your monitor is DDC compatible (PC)

- Do not use any adapter when connecting signal cable to your computer.
- Do not extend the signal cable with extension lead. The DDC signals will not accept extended cable.



If there is no DDC in your computer (PC)

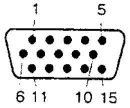
- Normally there is no need for adaptor when connecting signal cable to your computer.

1. Use MAC adaptor (QK1518) in signal cable when connecting the monitor to an Apple Macintosh computer.

   If the computer is equipped with separate display adapter card. It may have a standard D-SUB connector. In that case MAC adaptor is not needed.

Signal connector

Pin		*Signal*	
1	->	*RV*	*Red video*
2	->	*GV*	*Green video*
3	->	*BV*	*Blue video*
4	<-	*ID2*	*ID2 (tied to LG with 332 ohms inside monitor)*
5		*ST*	*DDC GND*
6		*RG*	*Red ground*
7		*GG*	*Green ground*
8		*BG*	*Blue ground*
9	->		*Not connected*
10		*LG*	*Logic ground*
11	<-	*ID0*	*ID0 (tied to LG with 332 ohms inside monitor)*
12	<-	*SDA*	*DDC SDA*
13	->	*Hs*	*Hor. sync., Comp. sync.*
14	->	*Vs*	*Vert. sync.*
15	<-	*SCL*	*DDC SCL*



1.5. Audio Features (Optional)

Monitor has built-in basic audio features. The sound system is capable of producing stereo sound via R and L loudspeakers (8).

1.5.1. Audio input connectors

1. There are two RCA connectors for line level AUDIO IN in rear of the monitor.
2. Connect the Audio inputs (Audio In L/R) of the monitor to the audio (Line Out) in the Computer
3. Connect the microphone output (Microphone Line Out) of the monitor to line level sound input (Line In) in the computer.

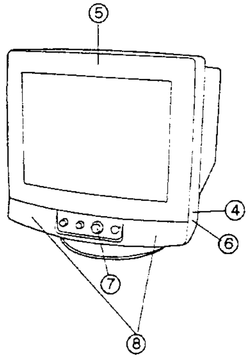
1.5.2. Headphones

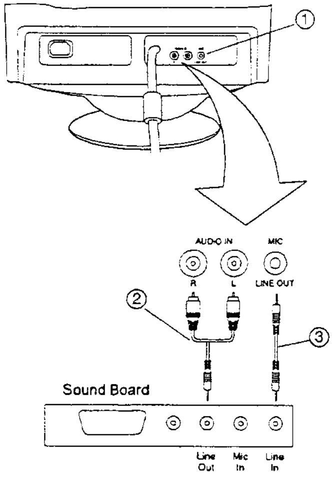
4. There is 3.5 mm HEADPHONE OUT socket for audio out for ≥ 16 Ω headphone connection in front side corner, usage of headphones will switch off internal speakers.

1.5.3. Microphone

5. There is a internal microphone in top side.
6. There is 3.5 mm EXTERNAL MICROPHONE IN connection in front side corner. Inserting the external microphone automatically silences the internal microphone.
7. Adjust volume with Menu wheel. Do not push the wheel when adjusting.

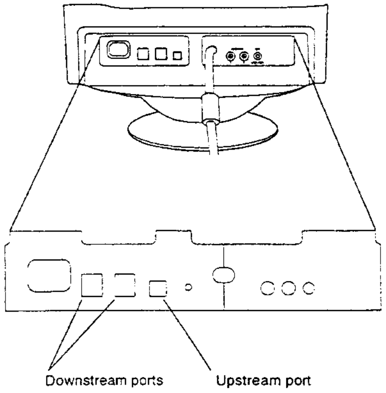
Depending on the sound board properties the system may start to oscillate at high pitched sound when switched on. In that case turn the volume adjustment into minimum before switcing the system on.





1.6. USB Features (Optional)

Unit is capable to handle 4 connected USB device as self powered HUB.
Connectors are 1 upstream port and 4 downstream ports in rear of the monitor.



1.7.User Controls

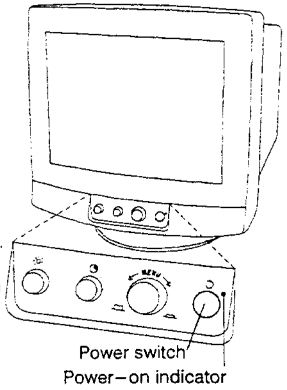
1.7.1. Power Switch

Turning the Monitor ON and OFF

Push the **power switch** to turn the monitor on or off.

When the power is turned on, the **power–on indicator** will light.
The colour of the the power–on light indicates the operating state of the monitor.

Green	The monitor is in normal operation.
Red	The monitor is in automatic power off state.
Not illuminated ..	The monitor is turned off with power switch or disconnected from mains outlet.



If the power management function working properly in your computer, you do not need to switch the monitor on or off. It happens automatically.

⚠ **The power switch does not disconnect the monitor from mains. In oder to make the monitor completely powerless, unplug the power cord from power outlet.**

1.8.Menu

The PICTURE SHAPE menu contains the most useful adjustments.

① The menu is called to the screen by pushing the Menu wheel.

② Select the property you want to adjust by turning the Menu wheel (e.g. WIDTH). The selected item in the menu is illuminated with light bar.

③ Open the adjustment window by pushing the Menu wheel. The menu disappears and a scale shows the position of the adjustment.

④ Adjust the selected property (WIDTH) by turning the Menu wheel. Turning the Menu wheel to the right increases the property and turning the Menu wheel to the left decreases the property. The upper number shows the current value and the lower one shows the value where the adjustment started.

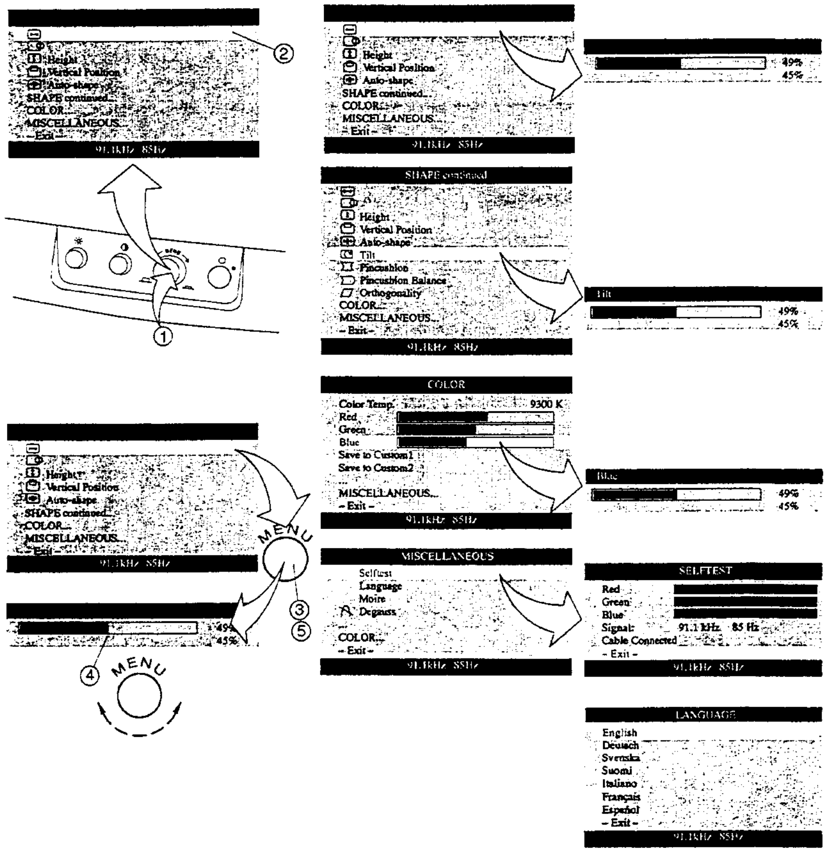
⑤ When the adjustment is ready, return to the menu by pushing the Menu wheel. After adjusting, the new setting will be stored automatically.

All menu displays disappear automatically in 60 seconds or at once by pushing exit.

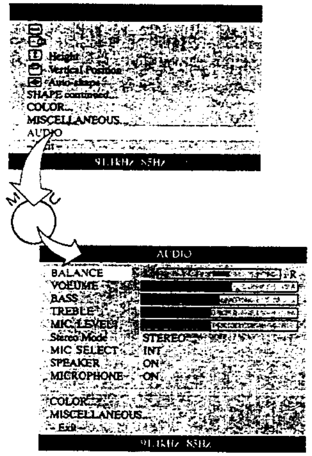
The latest item can be called to the screen simply by pushing the Menu wheel.

If you want to adjust other properties select with the menu wheel the header which contains the adjustment you are looking for.

Open the selected submenu by pushing the menu wheel.


②
①
③
⑤
④
MENU
Height
Vertical Position
Auto-shape
SHAPE continued
COLOR
MISCELLANEOUS
Exit
91.1kHz 85Hz
49%
45%
SHAPE continued
Tilt
Pincushion
Pincushion Balance
Orthogonality
COLOR
Color Temp. 9300 K
Red
Green
Blue
Save to Custom1
Save to Custom2
MISCELLANEOUS
Selftest
Language
Moire
Degauss
SELFTEST
Red
Green
Blue
Signal: 91.1 kHz 85 Hz
Cable Connected
LANGUAGE
English
Deutsch
Svenska
Suomi
Italiano
Français
Español

1.9. AudioMenu (151,159,351,359)


Height
Vertical Position
Auto-shape
SHAPE continued
COLOR
MISCELLANEOUS
AUDIO
91.1kHz 85Hz
MENU
AUDIO
BALANCE
VOLUME
BASS
TREBLE
MIC LEVEL
Stereo Mode
STEREO
MIC SELECT
INT
SPEAKER
ON
MICROPHONE
ON
COLOR
MISCELLANEOUS
Exit

Volume and Balance
- Volume Adjust the sound intensity of the loudspeakers and headphones.
- Balance adjust the relation of sound volume in the right speaker to that in the left speaker.

Bass and Treble
- Low and high frequencies can be boosted and attenuated separately by 10 dB.

Mic Level
- Mic. Level adjust the level of the outgoing (Microphone Line Out) sound signal.

Stereo Mode
- This menu item has three alternatives.
- MONO forces the sound reproduction to mono whether the incoming signal is mono or stereo.
- STEREO allows for stereo reproduction.
- 3D SOUND emphasizes the differences in information between R and L channels. This makes the stereo sound wider.

Mic. Select
- If you continuously use the internal or external microphone only, you do not need to make any MicLevel Settings.
- If you use internal and external microphones alternately and they have different sensitivities you may need this feature.
  - Select first Mic. Level Internal.
  - Adjust the level of the outgoing sound with Mic. Level.
  - Install the external microphone or headset.
  - Select Mic. Select External.
  - Adjust the level of the outgoing sound with Mic. Level equal that with internal microphone.
- Now if you change back to the internal microphone, you get the correct output level by setting Mic. Select from External to Internal and vice versa.

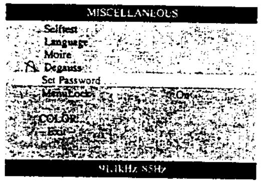
Speaker
- Off silences the loudspeakers and headphones. On or increasing the volume restores the sound.

Microphone
- Microphone Off switches the outgoing sound signal (Microphone Line Out) off. Microphone On restores the signal.

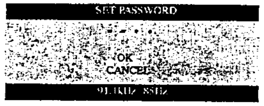
1.10. Password functions

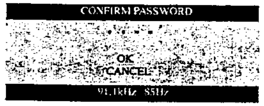
The Password functions will be inactive when shipped from the factory. The User will have to perform the following procedure to activate it:

- Move the cursor to the DEGAUSS adjustment press the Menu wheel and hold for 10 seconds. After that time the Set Password and Menu Lock shall be come visible.
- To deactivate (not visible) the function follow the same step has above (password will be delete also).



The user can set a password for OSM access control and can also specify whether the Password shall be active or not. Once password is activate (MENU LOCK ON) the user will be prompted to enter the password every time the OSM is called.



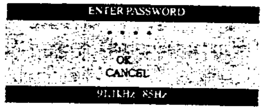


When the user enters the SET PASSWORD the cursor will be automatically placed on the place of the first number. The user can turn the Menu wheel to select numbers from 0...9 and selects the number by pressing the Menu wheel, which moves the cursor to the place of the next number. If user wants to delete the entered password, he must select CANCEL, which erase the complete password. Selecting OK will give another window to confirm the password. Selecting OK will store the set password and return to the MISCELLANEOUS menu.

Note ! If the user does not enter any number for a password, the MENU LOCK must be set to OFF.

In case the user has set a password and activated the MENU LOCK by setting ON, he will be prompted to enter the password every time the OSM starts up.

The procedure for entering the password is the same as in the SET PASSWORD window.



NOTE !

Besides the user defined password, there will be second password, allowing authorized personnel to enter the OSM in any case. This password shall be 3582.

2. Site Preparation

2.1. Location

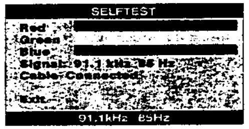
This Monitor is designed for normal office conditions. It is equipped with own power supply. It is not to be serviced or repaired on site

2.2. Troubleshooting

Local service facilities should perform simple maintenance such as trimming. More advanced maintenance and repair that requires replacement of components which in turn requires testing and retrimming should be carried out in a central workshop.

Symptom		Measures
Picture screen is blank	The indicator on the front panel is not illuminated	Check that the power cord is correctly connected to the monitor and to the power outlet. If the monitor is powered through the computer, check that the computer is switched on with the mains switch. Use a desk light, for example, to verify that current is connected to a power outlet. If no electricity is connected to the outlet, call an electrician.
		Unplug the monitor from power outlet for about one minute.
	The indicator on the front panel is illuminated	Check that the signal cable connector is connected. If the connector is loose tighten the connector's screws.
		The Monitor might be in stand–by position. Push one of the buttons or move the mouse.
		Unplug the monitor from outlet for about one minute.
		Switch off the monitor and the computer. Remove the signal cable from the computer. Switch on the monitor using the power switch. If the Selftest menu appears on the screen, it is evident that the monitor functions correctly and the problem is caused by an error in other parts of the system.
		Check the signal cable's connection pins. If the pins are slightly distorted, use nose pliers to straighten them.
		The Selftest menu appears. The computer may use a timing values which are out of the monitor's synchronization range.
Picture has colour defects		Demagnetize the monitor.
		If colour defect is repeated without the monitor having been moved, it is possible that the monitor is influenced by a strong magnetic interference field (near to a high power cable, for example). Try to find a better location for the monitor or the interference source. Note that another monitor placed too near (less than 30 cm.) may also generate interference in the picture.
Picture has strong color defect,		Open the Miscellaneous/Selftest menu. Check the color of the Red, Green and Blue bars. If they have pure colors, the fault is not in the monitor. Check signal cable connectors and the computer. If the menu itself and the color bars are discolored, the monitor is obviously damaged.
Picture is stable but distorted		Your computer may use a timing for which the corresponding picture characteristic adjustments have not been set at the factory. Adjust the picture characteristics
Picture is unstable		Check the proximity of other electrical devices that generate magnetic fields, such as speakers, other monitors, electric fans and fluorescent light fixtures. Make sure your computer and video card are properly configured for your monitor.

The automatical appearance of the Selftest menu on the screen means that the signal is faulty or missing.



2.3. Checking the Operation of PowerSaver

The proper operation of the function requires a computer with VESA DPMS power management capabilities. Note that the power saving feature must be activated in the computer when checking the operation.

State	Colour of the power–on indicator	5V	7V	12V	Video
Normal Operation	Green	Yes	Yes	Yes	Yes
Stand–by	Green	Yes	Yes	Yes	No
Suspend	Green	Yes	Yes	No	No
Power Off	Red	Yes	No	No	No

DPMS (Display Power Management Signaling) is a trade mark of Video Electronics Standard Association (VESA)

3. Controlling the Memory for Picture Adjustments

The picture adjustment values are stored in non-volatile memory. The memory has separated areas for User Adjustments and for Factory Adjustments.

3.1. Memory for User Adjustments

3.1.1. Adjustment

$\boxed{1}$ If there are values available in the memory for user adjustments, corresponding to the present timing signals, they are always used.

$\boxed{2}$ New user made adjustments are stored to the memory for user adjustments.

3.1.2. Resetting the User made settings for geometry or image

$\boxed{3}$ User memory can be emptied from user made settings. **Resetting affects only the timing which is currently active.** The reset function is inhibited if no corresponding factory preset display mode exists.

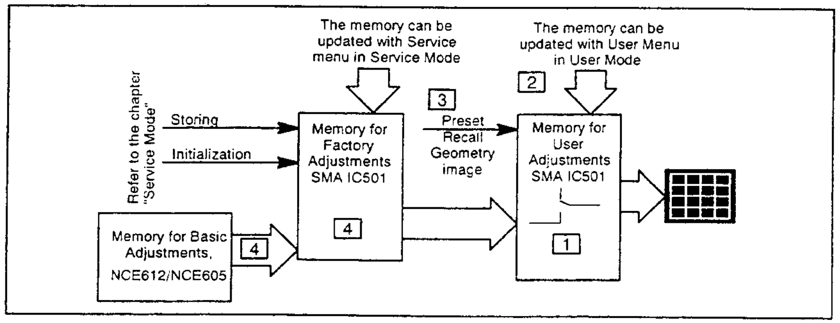
After resetting all picture properties are coming from memory for factory adjustments.

3.2. Memory for Factory Adjustments

3.2.1. Adjustment

$\boxed{4}$ Factory adjustments can be updated with service menu in service mode. If there is no location in factory adjustment memory for timings currently in use, the adjustment affects the memory for user adjustments.

- If the memory location mentioned in case $\boxed{1}$ is empty, the picture adjustment values are read from memory for factory adjustments. Factory adjustments, corresponding to the current timings, are transferred to user memory if any picture property is adjusted. After that the operation is as in case $\boxed{1}$.


The memory can be updated with Service menu in Service Mode
The memory can be updated with User Menu in User Mode
Refer to the chapter "Service Mode"
Storing
Initialization
Memory for Factory Adjustments SMA IC501
4
3
Preset Recall Geometry image
2
Memory for User Adjustments SMA IC501
1
Memory for Basic Adjustments, NCE612/NCE605
4

4. Service Mode

Service Mode is needed for updating of the factory adjustments for timings listed in the chapter Preset Display Modes. If there is no location in factory adjustment memory for display mode currently in use, the adjustment affects the memory for user adjustments.

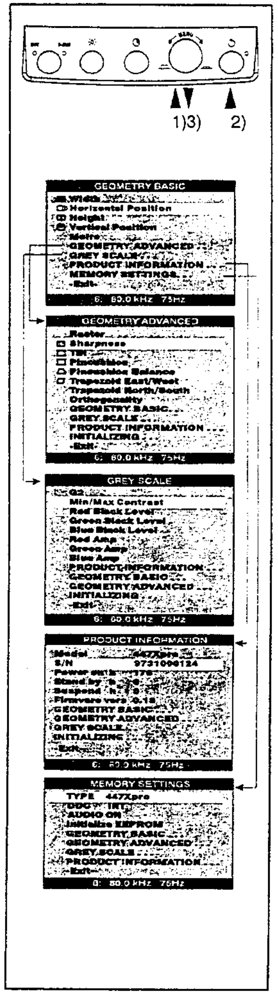
4.1. Grouping of the Adjustments

There are three groups of software adjustments in service mode:
- Geometry Basic set
- Geometry Advanced set
- Grey Scale adjustment set

The following table shows how the adjustments act in relation to the display modes.

Adjustment	Common for all Display modes	Separate for each Display mode	Available in User Mode	Available in Service Mode
Horizontal Position		X	X	X
Vertical Position		X	X	X
Height		X	X	X
Width		X	X	X
Pincushion		X	X	X
Trapezoid East/West		X	X	X
Trapezoid North/South		X		X
Orthogonality		X	X	X
Moire		X	X	
Pincushion balance		X	X	X
G2	X			X
Min/Max contrast	X			X
R Blacklevel	X			X
G Blacklevel	X			X
B Blacklevel	X			X
R Amp	X			X
G Amp	X			X
B Amp	X			X

Common adjustments need to be adjusted only once. Separate adjustment must be performed for every display mode to be stored



4.2. Service Menu

4.2.1. Access to Service Mode

Active the service mode always in 91.15 kHz/85 Hz (NCE612) with Xpro and 79.97 kHz/75 Hz (NCE605) with XiPlus.

First switch OFF the monitor with power switch.
1) Push the Menu wheel down.
2) While keeping the Menu wheel down, switch ON the monitor.
3) Release the Menu wheel **when the picture has appeared.**
4) Press the Menu wheel.
5) Insert the password 7711 and select OK with the Menu wheel.

Select the items in the Menu with by turning the Menu wheel. Push the Menu wheel to open Geometry Advanced , Grey Scale or Product Information Submenu or to change memory settings. Adjust each property with the Menu wheel.

4.2.2. Geometry Basic and Advanced

Geometry submenus contain placement, size and shape adjustments.

4.2.3. Grey Scale

This monitor has six preset tints. With tint numbers smaller than 4 the picture becomes reddish and with tint numbers greater than 4 the picture turns blue.

Tint no	1	2	3	4	5	6	7
Colour Temperature	5000K	6000K	6500K	7000K	8000K	9300K	10000K

The grey scale adjustment affects directly tint number 6 (9300K) only. Other tints are derived automatically from 9300K colour temperature.

4.2.4. Initializing the Replacement IC501 on SMA board

If the memory for factory adjustments is replaced, it must be initialized. During initializing all memory locations are written with approximate values. They must be updated in service mode as explained in the chapter 'Adjustment Procedure'.
- Activate service mode as explained before.
- Select Memory Settings in the menu.
- Select Monitor Type (447Xpro or 447XiPlus), the type of the DDC (EXT or INT) external if ICA506 is connected and Audio (ON or OFF) by pressing the Menu wheel and start initialization by selecting Initialize EEPROM and pushing the Menu wheel.
- Switch OFF the monitor.

Caution
Initializing of a programmed memory IC deletes all user and factory made adjustments.

4.2.5. Storing the adjustments

When the adjustment is ready, return to the menu by pushing The Menu wheel. The new setting is stored automatically.

4.2.6. Exit from service mode

1. Select exit from the Geometry Basic / Geometry Advanced / Grey Scale or Memory Settings menu
2. Switch off the monitor.

5. Workshop Maintenance

5.1. Important Safety Notice

The components, which are important for safety, are marked with special mark ⚠ on the circuit diagram. It is essential that these critical parts should be replaced with manufacture's specified parts to prevent X–radiation, shock, fire or other hazards.
For your own safety, use always safety isolating transformer when repairing the monitor.

5.1.1. Discharging the CRT

High voltage circuitry includes bleeder resistor which normally discharges the tube in about 5 seconds after the power is switched off. If you – for safety reasons – want to be sure about the discharging, do as follows:
Wear safety goggles. A cracked CRT may implode when discharged.
The signal cable must be disconnected from the computer.
To discharge the CRT, a flat–head screwdriver with grounding cable is required.

- Disconnect the power cable.
- Connect the metal chassis of the monitor to reliable earth.
- Connect the grounding wire to the screwdriver.
- Connect the other end of the grounding wire to the chassis (earth).
- Insert the screwdriver under the rubber cap of the EHT connector to discharge the tube.
- Disconnect the power cable.

5.2. ESD–Sensitive Parts

To prevent damage, when working with electrostatic discharge (ESD) sensitive parts, observe the following instructions:

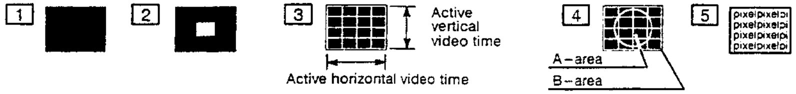
- Keep the ESD–sensitive part in its original shipping container until you are ready to install the part into the component card.
- Just before touching the ESD–sensitive part, discharge to the monitor any static electricity in your body; do this by touching the metal frame or cover of the machine. If possible, keep one hand on the frame when inserting or removing a logic card, for example.
- Hold the ESD–sensitive part by its edge; do not touch its pins.

5.3. Test Equipment

The following test equipment are required to adjustment procedure.

- Safety isolating transformer
- Digital multimeter: Fluke 87 or equivalent true RMS multimeter
- High voltage probe: e.g. Fluke 80–40k
- Signal generator: VTG220 + PC or programmable video generator
- Color analyzer: e.g. Minolta TV Color Analyzer CA100
- Convergence Gauge (CM7AR or equivalent)
- Oscilloscope 40–100 MHz band width
- Hi–Pot tester (Flash tester with insulation measurement / Leakage current / Break down voltage)
- ESD protection necessary

5.4. Test Patterns



1 Black Picture
- Signal level = 0 V at each RGB input

2 Highlight grey scale tracking
- Signal level = 700 mV in the window at each RGB input

3 Crosshatch Picture
- Squares e.g. 20 mm x 20 mm
- Outmost lines correspond the active vertical/horizontal video time

4 Convergence test pattern

5 Focus test pattern

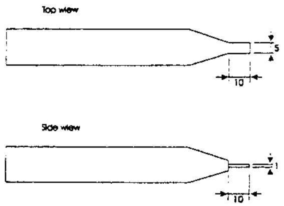
5.5. Disassembly

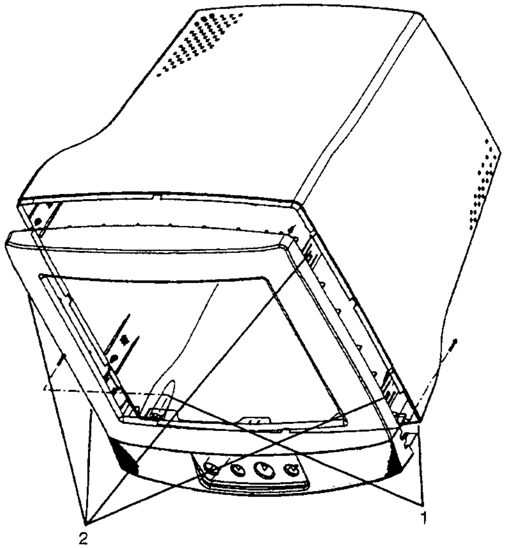
5.5.1. Cabinet

Set the monitor on cushion picture tube facing down

1. Loosen and remove two screws.
2. Open the plastic pawl with a screwdriver or the special tool (for instance 860006)

860006



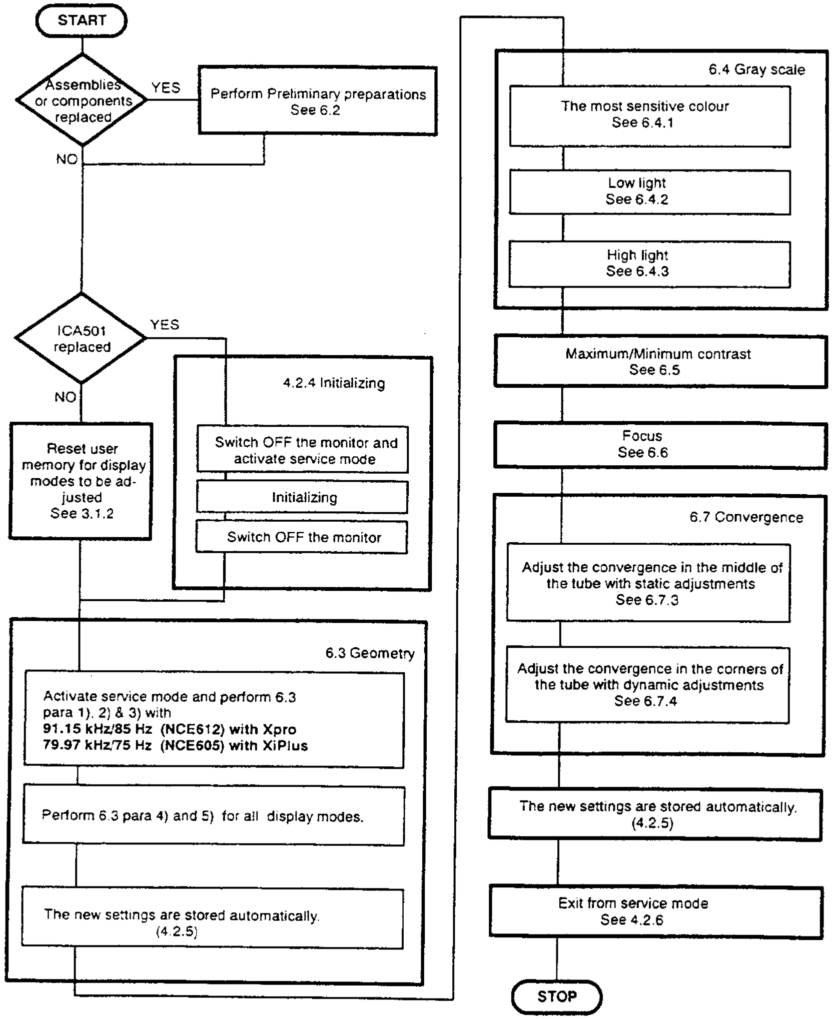


6. Adjustment Procedure

The following procedure must be carried out in case of large service operations e.g. when a circuit board or nonvolatile memory ICA501 has been replaced by a new one.

The order of adjustments explained here has been found to produce the desired result with the minimum of effort. Adjustments can also be made in another order or completely separately.

6.1. Adjustment Flow Diagram

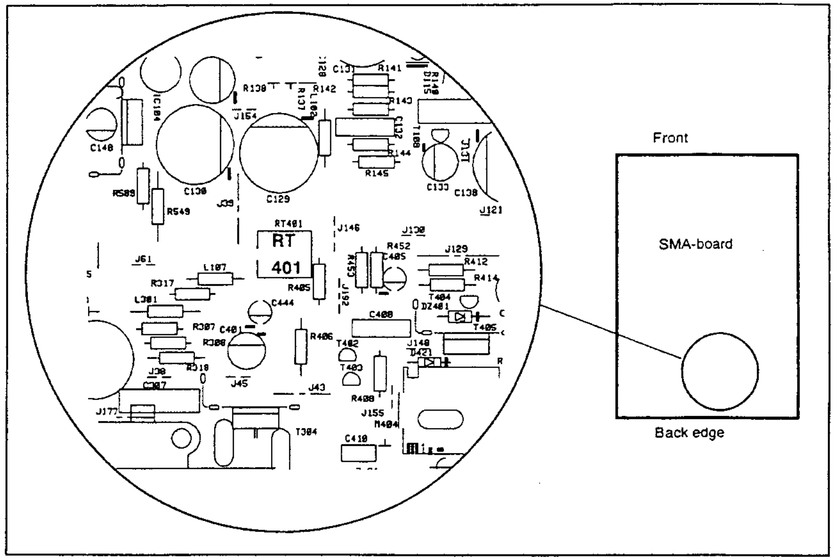

START
Assemblies or components replaced
YES
NO
Perform Preliminary preparations See 6.2
ICA501 replaced
YES
NO
Reset user memory for display modes to be adjusted See 3.1.2
4.2.4 Initializing
Switch OFF the monitor and activate service mode
Initializing
Switch OFF the monitor
6.3 Geometry
Activate service mode and perform 6.3 para 1). 2) & 3) with
91.15 kHz/85 Hz (NCE612) with Xpro
79.97 kHz/75 Hz (NCE605) with XiPlus
Perform 6.3 para 4) and 5) for all display modes.
The new settings are stored automatically. (4.2.5)
6.4 Gray scale
The most sensitive colour See 6.4.1
Low light See 6.4.2
High light See 6.4.3
Maximum/Minimum contrast See 6.5
Focus See 6.6
6.7 Convergence
Adjust the convergence in the middle of the tube with static adjustments See 6.7.3
Adjust the convergence in the corners of the tube with dynamic adjustments See 6.7.4
The new settings are stored automatically. (4.2.5)
Exit from service mode See 4.2.6
STOP

6.2. Preliminary Preparations

Connect the signal cable to the PC. Switch on the monitor and the PC. Let the monitor warm up for 20 minutes before starting the adjustments.

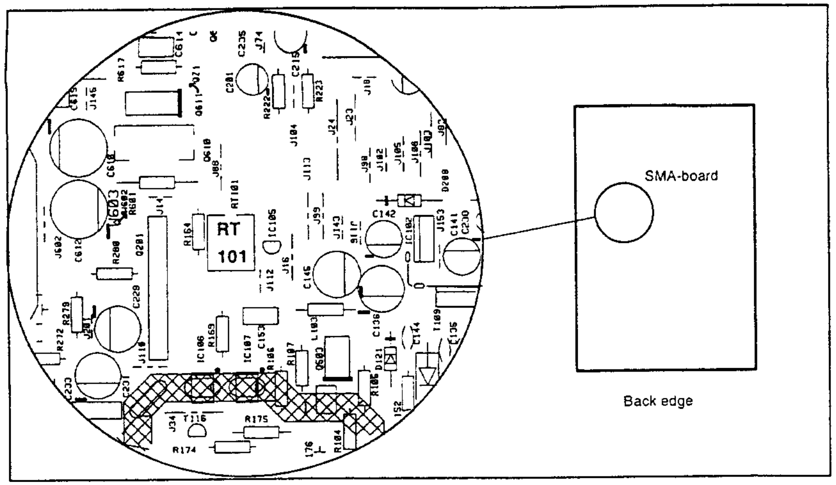
6.2.1. Coarse width

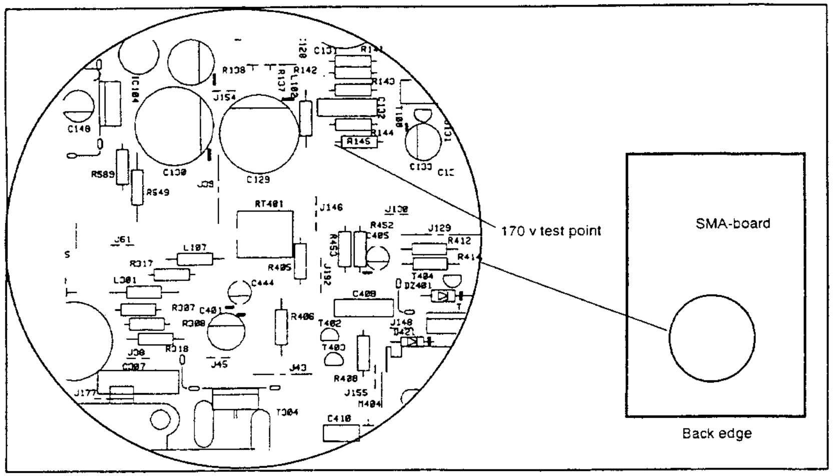
- Select 91.15 kHz/85 Hz (NCE612) with 447Xpro
  79,97 kHz/75 Hz (NCE605) with 447XiPlus crosshatch test pattern
- Set width to the 65% of the maximum with menu adjustment
- Set width equal to the mask aperture (324 mm) with coarse adjustment **RT401**


RT
401
RT401
C129
C130
R145
R141
R142
R143
R144
R452
R412
R405
R406
C400
T404
T405
T402
T403
C444
L107
R317
J61
J146
J129
J155
C410
T304
Front
SMA-board
Back edge

6.2.2. Operating voltage

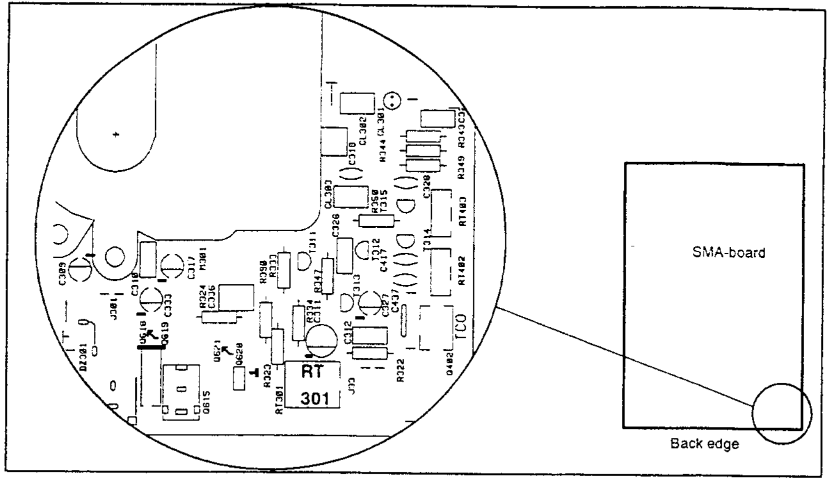
Connect the DVM to 170 v test point. Adjust trimmer **RT101** on SMA -board for a voltage of **170 ± 0.5 V.**


RT
101
SMA-board
Back edge


RT401
170 v test point
SMA-board
Back edge

6.2.3. High Voltage

- Select 31.47kHz/60Hz (NCE300) crosshatch test pattern.
- Connect the high voltage meter to the anode of the picture tube.
- Adjust the high voltage to **27.0 ±0.3 kV** with **RT301** on SMA–board.


RT
301
SMA-board
Back edge

6.2.4. Preliminary Picture Adjustments

1) Select 91.15 kHz/85 Hz (NCE612) with 447XPro
   79,97 kHz/75 Hz (NCE605) with 447XiPlus crosshatch test pattern.
2) Set ◑ to maximum and adjust ☼ until the background is faintly visible.
3) Adjust focus if poor.

Remember

- Do not adjust **G2**–voltage with potentiometer or keypanel if you have reason to belive that there is no need to adjust gray scale.

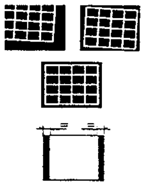
6.3. Geometry

Magnetic fields for following adjustments: vertical 0.45G and horizontal 0.0G.

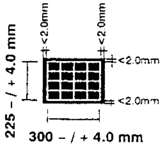
Activate Service Mode in 91.15 kHz/85Hz (NCE612) with 447Xpro and
79,97 kHz/75 Hz (NCE605) with 447XiPlus.

Degaussing must be carried out before the picture adjustments. Degaussing shall be repeated if the monitor is moved.

1) Select **91.15 kHz/85 Hz** (NCE612) or **79.97 kHz/75 Hz** (NCE605) crosshatch test pattern.
   Set ◑ to maximum and adjust ☼ until the background is faintly visible.
   Reduce width until both vertical edges of the **background** are visible.
2) Straighten the picture if tilted.
   This adjustment is common for all display modes.
3) Centre the background.
   This adjustment is common for all display modes.

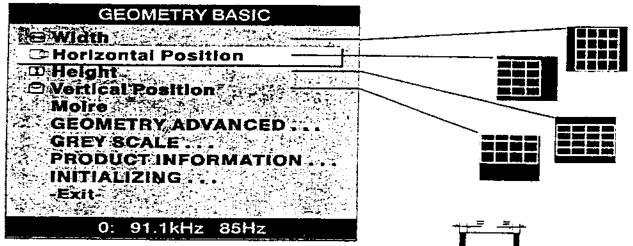


4) Adjust size, position and shape of the picture equal to the mask aperture. Adjust first the properties with largest deviation from the correct value.
5) Adjust final width and height.
6) The distance between bezel and active screen edge shall not vary more than 2.0 mm in vertical and horizontal direction.

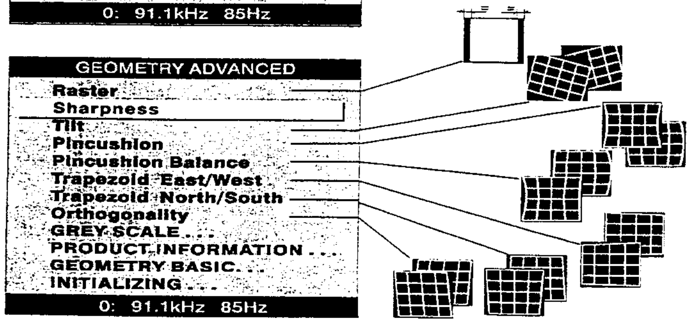


<2.0mm
<2.0mm
<2.0mm
<2.0mm
225 – / + 4.0 mm
300 – / + 4.0 mm

7) Repeat steps 4) and 5) for every display mode to be stored. Note that the display mode can be changed without leaving the service mode.



GEOMETRY BASIC
Width
Horizontal Position
Height
Vertical Position
Moire
GEOMETRY ADVANCED . . .
GREY SCALE . . .
PRODUCT INFORMATION . . .
INITIALIZING . . .
-Exit-
0: 91.1kHz 85Hz



GEOMETRY ADVANCED
Raster
Sharpness
Tilt
Pincushion
Pincushion Balance
Trapezoid East/West
Trapezoid North/South
Orthogonality
GREY SCALE . . .
PRODUCT INFORMATION . . .
GEOMETRY BASIC. . .
INITIALIZING . . .
0: 91.1kHz 85Hz

6.4. Grey Scale

The grey scale is adjusted for 9300K colour temperature.

Activate Service Mode in 91.15 kHz/85Hz (NCE612) with 447Xpro and
79,97 kHz/75 Hz (NCE605) with 447XiPlus.

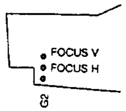
6.4.1. The Most Sensitive Colour

The most sensitive colour has been marked in a label on the deflection yoke. It may not be correct if tube or SMH card has been changed. In that case judge the most sensitive colour from the tone of the picture after you have made the following adjustments.

1) Select **91.15 kHz/85 Hz** (NCE612) or **79.97 kHz/75 Hz** (NCE605) black test pattern.
2) Set ☼ to maximum and ◑ to minimum.
3) Set Blacklevel adjustment **RED/GREEN/BLUE Black Level** to 12% of the maximum.
4) Set **RED/GREEN/BLUE Amp** menu adjustments to center (50%).
5) Set **G2 menu** adjustment to center (50%).
6) Place the probe of the colour analyzer in the middle of the screen and adjust with **G2 trimmer** until the picture brightness is 4±0.5 nit.

6.4.2. Low Light

1) Select **91.15 kHz/85 Hz** (NCE612) or **79.97 kHz/75 Hz** (NCE605) black test pattern.
2) Adjust picture brightness to 1.0 nits with ☼ potentiometer.
3) Adjust the ◑ with potentiometer to the minimum.
4) Adjust the colour coordinates to (9300K)
   x = 0.281±0.020
   y = 0.311±0.020
   with **RED/GREEN/BLUE Black Level** adjustments.
   Do not adjust the most sensitive colour.
5) Set ☼ to the maximum and check that the brightness is still 4±0.5 nits. If not, repeat 6.4.1. steps 5) and 6).
6) Adjust picture brightness to 1.0 nits with ☼ potentiometer and check the colour coordinates.



FOCUS V
FOCUS H

Left side view of the chassis

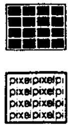
6.4.3. High Light

1) Select **91.15 kHz/85 Hz** (NCE612) or **79.97 kHz/75 Hz** (NCE605) black test pattern.
2) Adjust with ☼ the picture brightness to 1±0.5 nits.
3) Select **91.15 kHz/85 Hz** window test pattern.
4) Adjust with ◑ the picture brightness in the window to 100±5 nits.
5) Adjust with **RED/BLUE Amp** the colour coordinates in the window to
   x = 0.281±0.020
   y = 0.311±0.020
   Check after adjustment that the brightness reading is in limits.

6.5. Maximum/Minimum Contrast

1) Set ◑ to the maximum.
2) Adjust with ☼ potentiometer the picture brightness outside window to 1.0 nits.
3) Adjust brightness in the window to 160±20 nits with **MIN/MAX CONTRAST**.
4) Set ◑ to the minimum.
5) Adjust the minimum brightness in the window to 6.5 ± 3.5 nits with **MIN/MAX CONTRAST**.
6) Exit from service mode.

6.6. Focus


pixelpixelpi
pixelpixelpi
pixelpixelpi
pixelpixelpi

1) Select **107.1 kHz/85 Hz** (NCE612) or **79.97 kHz/75 Hz** (NCE605) crosshatch test pattern
2) Set ◑ to the maximum and adjust ☼ until the background is faintly visible
3) Adjust the sharpness with **FOCUS H** and **FOCUS V** to optimum
4) Adjust ☼ until the background is invisible
5) Select focus test pattern. Check that all letters are clearly visible.

6.7. Convergence

Reduce first the convergence error in the middle of the screen to minimum using static adjustments. After the convergence is faultless in the middle of the tube, use dynamic adjustments to eliminate the error in the edges of the tube.

Static adjustments affects the whole picture area:

- Magnet ring set on the tube neck (horizontal + vertical)

Dynamic adjustments affects a part of the picture area:

- Deflection yoke trimmers.

6.7.1.. Measuring Conditions

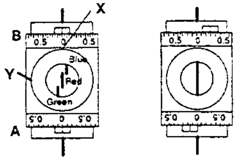
- Adjust convergence with 91.15 kHz (NCE612) or 79.97 kHz/75 Hz (NCE605) line frequency
- Make sure that focus is correctly set at the mid-point between the screen center and the edge of the picture.
- Use white crosshatch test pattern with circle.
- Adjust ◑ to near the maximum and reduce ☼ until the background disappears.

6.7.2. Convergence Measuring Gauge CM7AR

The use of the Klein CM7AR Convergence Gauge has been explained here but other types of gauges can be used as well.

Check that the adjusting knobs (A & B) are set to zero.

- Place the gauge on the line with marking Y up upwards when measuring horizontal line.
- Place the gauge on the line with marking X up upwards when measuring vertical line.
- If the line has convergence error, the line in the window seems to be broken.
- Use knobs A and B to adjust the line continuous.
- If the readings are on the opposite side of zero, the convergence error is A+B (e.g. 0.2 + 0.1 = 0.3).
- If the readings are on the same side of zero, the convergence error is equal to A if A > B or B if B > A

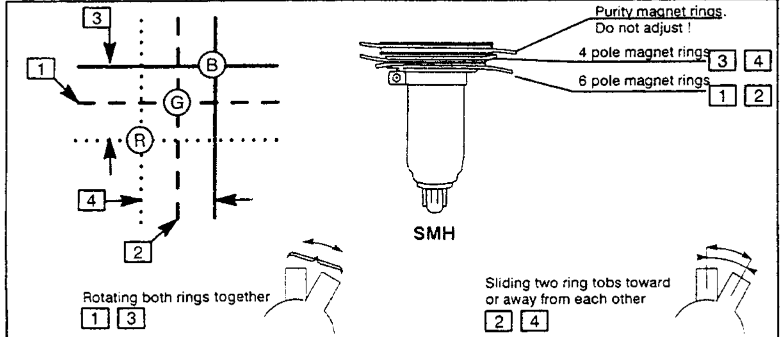

X
B
Y
A
0.5
0
0.5
Blue
Red
Green

6.7.3. Static Convergence

The magnet rings has been set to the optimum in the factory. Readjustment is necessary only in case the adjusting magnets have been accidentally moved.

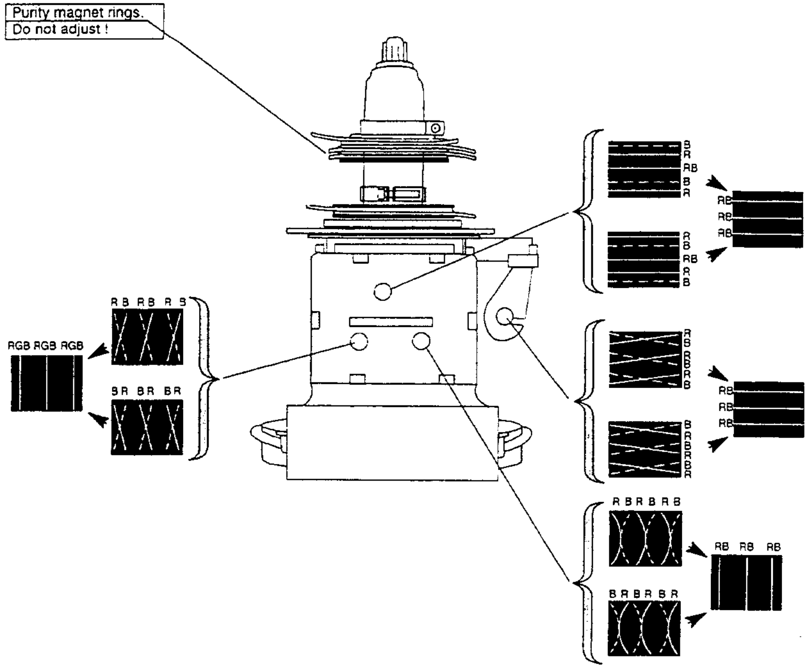
1 Adjust G vertically in the middle between R and B with 6 pole magnet rings.
2 Adjust G horizontally in the middle between R and B with 6 pole magnet rings.
3 Adjust R and B vertically to the same position with G line with 4 pole magnet rings
4 Adjust R and B horizontally to the same position with G line with 4 pole magnet rings

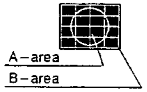
Lock the rings with paint


3
1
B
G
R
4
2
Purity magnet rings.
Do not adjust !
4 pole magnet rings
3
4
6 pole magnet rings
1
2
SMH
Rotating both rings together
1
3
Sliding two ring tobs toward or away from each other
2
4

6.7.4. Dynamic Convergence

Deflection yoke trimmers


Purity magnet rings.
Do not adjust !
RGB RGB RGB
RB RB R B
BR BR BR
B R RB B R
RB RB RB
R B RB R B
R B B R R B
RB RB RB
B R B R B R
RBRBRB
RB RB RB
BRBRBR


A-area
B-area

6.7.5. Allowed Error Levels for Convergence

Area A ≤ 0.30 mm

Area B ≤ 0.40 mm

6.8. Colour Purity

Do not move purity magnet rings. If the purity magnet rings are found to have moved during transportation or handling, set them just in the original position by tracing the locking paint put on purity magnet rings and holder of beam bender and then readjust the static convergence.

7. Image performance

Measurements to verify this specification shall be made with equipment that measures the displayed image as if it were projected forward onto flat panel tangent to the centre of the CRT face plate surface and perpendicular to the Z-axis of the CRT.

The following specifications are applicable over specified input power conditions, specified environmental operating conditions and after being subjected to the specified non-operating environmental conditions. Before performance measurements are done the monitor must been in room temperature (20 ± 5°C) for at least 2 hours. After that the monitor must have been warmed up with the power on for at least 40 minutes.

The monitor shall be positioned to a magnetic field which is specified as 0 G horizontal field and 0.45 G vertical field (northern hemisphere) whenever image performance is measured. The monitor shall be degaussed before the performance measurement are done.

If there is no standardized magnetic field available, the monitor should be positioned face to east.

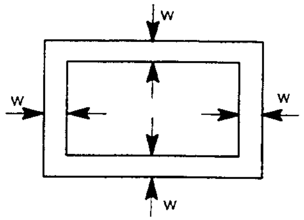
All image performance specifications will be fulfilled with all factory pre-set timing modes and in an ambient illumination of 500 lux.

7.1. Active picture size and location

- Definition: Picture size is defined as the width and height of the display using the active raster, not including the border.
- Measurement: 16 x 12 Cross-hatch test pattern. Brightness 95 nits. The width and the height are measured via the centre of the screen.
- Requirements: Width = 300 mm
  Height = 225 mm
  The tolerance for the size of the active picture is ± 3.0 mm for preadjusted modes and for preloaded modes it is ±6.0 mm.
  Over the full range of operating temperature the size shall not change more than ±3.0 mm.
  The tolerance for the location of the active picture centre is ±5.0 mm for preadjusted modes and for preload modes it is ±10.0 mm. the location is measured from the bezel opening edge.

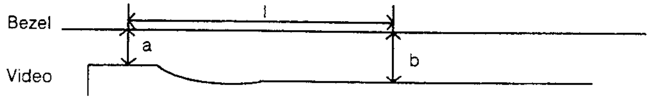
7.2. Geometrical Distortion

- The distance between bezel and active screen edge shall not vary more than 2.0 mm in vertical and horizontal direction. For preload modes max 4.0 mm.
- The requirement must be fulfilled with all factory pre-sets modes. The measurements are done with maximum output luminance.



7.3. Straightness of line segment

- Definition: For any segment of an edge of the active picture the deviation from being straight is defined as the distance from the the straight line formed by connecting the end points of the segment under test to the point on the line segment furthest from that construction.
- Measurement: The deviation is to be measured perpendicular to the constructed line (see figure).
  deviation = a-b
  % deviation = (a-b/l) x 100%



- Requirements: For line segments less than 50 mm the maximum allowed deviation is 1 mm.

0 – 50 mm	max. dev 1 mm
50 – 200 mm	max. dev 1.0 – 2.0 mm
200 –	max. dev 2.0 mm

This must be valid for vertical and horizontal lines.

7.4. Linearity

- Definition: Linearity is defined as a relative change in character dimensions.
- Measurement: 16 x 12 Cross-hatch test pattern. Brightness control is set so that the background raster has just extinguished and the contrast control is set to maximum.
- Requirements: For horizontal sync frequencies above 48 kHz:
  The limits for vertical or horizontal non-linearity are 5 5 between adjacent squares and 8 % between any squares.

  For horizontal sync frequencies below 48 kHz:
  The limits for vertical or horizontal non-linearity are 8 5 between adjacent squares and 12 % between any squares.

  The method of calculating linearity is: [(max-min)/max] x 100
  The measurement is done via the centre point of the rectangle from center of the line to center of the line.

7.5. Phosphor color coordinates

- Measurement conditions:
  Test pattern is full screen R,G or B field.
  Brightness control is adjusted for a background raster luminance level of cut off.
  Contrast control is adjusted to the maximum luminance level.
  Input signals R,G or B with maximum amplitude.
- Requirements: Phosphor CIE-coordinates

	X	Y
Red	0.625	0.340
Green	0.280	0.595
Blue	0.155	0.070

Tolerance of the color coordinates will be < 0.020 in both X and Y direction.

7.6. Color temperature and tracking

- Measurement conditions:
  Test pattern 50 x 50 mm white field at the screen centre.
  Brightness control adjusted for a nominal background raster luminance.
  Input signals R,G and B with maximum amplitude.
  Color temperature 9300 K
- Requirements When contrast control is adjusted from a luminance level of 100 cdm^{-2} to 30 cdm^{-2} thew 1931 CIE X and Y coordinates do not vary more than
  X ± 0.010
  Y ± 0.010
  The color temperature user adjustment range 5000 – 10000 K

7.7. Color purity

- Measurement conditions:
  Test pattern full screen R,G and B field.
  Brightness control adjusted for a background raster luminance level 2 cdm^{-2}.
  Input signals R,G and B maximum amplitude.
  After rotating the unit must be degaussed.
  Viewing distance 600 mm, for 5 second observation.
- Requirements: Color purity is visually checked for each full raster primary color. Tube facing east, west, north and south each primary color raster shall have no color impurity due to beam mislanding. For a full white field, if there is an area of ob served impurity in color, the difference in color coordinates between that area and the center of the display area shall be less than x: ± 0.015 ; y: ± 0.0 15 In addition, the square root of the sum of the squares of the differences in x and y must be less than or equal to 0.015.

7.8. Luminance

- Definition: The following methodology and definition of luminance shall be applicable throughout this specification.
  Luminance shall be measured on 1280 x 1024 85 Hz pixel format at five areas, using two different pictures:
  1) In the center of the screen white field 50 x 50 mm.
  2) Full white field.

  The five areas are defined as:
  L0 Center of the screen
  L1 Upper left of the screen
  L2 Upper right of the screen
  L3 Lower left of the screen
  L4 Lower right of the screen

- Requirements: Nominal Brightness Luminance
  The center of brightness adjustment is targeted to 0.2 cdm^{-2}

  Maximum Contrast Luminance
  With the 1.0 cdm^{-2} brightness and the contrast control set to maximum measure the maximum luminance at the centre of the picture.
  Full white field: luminance <105 cdm^{-2}
  50 mm x 50 mm white field luminance 160 ±35 cdm^{-2}

  Minimum Contrast Luminance
  With the 1.0 cdm^{-2} brightness and the contrast control set to minimum measure the maximum luminance at the centre of the picture.
  50 mm x 50 mm white field: 0 cdm^{-2} $\leq$ L0 $\leq$ 10 cdm^{-2}

  Luminance uniformity
  With full white field and with the nominal luminance and with the contrast control set for a luminance of 100 cdm^{-2} at the centre of the screen measure the luminance uniformity. The luminance at anywhere in the display area must be more than 70% of the luminance at the centre. This uniformity specification must be fulfilled the tube facing east,west,north and south.

  Maximum Background Luminance
  The luminance of the background, measured at centre of the screen, without active video.
  1 cdm^{-2} $\leq$ L0 < 7 cdm^{-2}

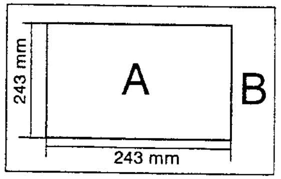
7.9. Convergence

- Definition: Misconvergence is defined as the distance between centres of the red, green and blue beams at the screen using rectangular coordinates. The centre is defined as the midpoint of the brightest portion of the beams.
- Measurements: Using a crosshatch test pattern adjust each gun to produce white dim lines. Adjust brightness control so that background will just disappear. set contrast control to give a luminance level of 50 cdm^{-2} on a white 50 mm x 50 mm square at the screen centre.
- Requirements: For horizontal sync frequencies above 48 kHz:
  Inside a circle with a diameter equal to the height of the active screen ±0.25 mm. Elsewhere inside the active screen area ±0.35.
  For horizontal sync frequencies below 48 kHz:
  Inside a circle with a diameter equal to the height of the active screen ±0.35. elsewhere inside the active screen area ±0.40mm.

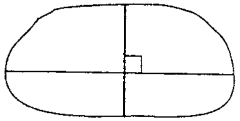
8.Screen and Faceplate Blemishes

8.1. Quality Area

ZONE A	ZONE B
Square area centered on the screen	Remaining useful screen area
243 x 243	Area outside Zone A



8.2. Face Defects Limits



Averange Defect Diameter = (Long Diameter + Short Diameter) / 2

	Quantity Allowed			
Average Defect Diameter	ZONE A	ZONE B	Total	Minimum Separation (mm)
≧0.5 mm	0	0	0	--
≦0.5 mm	4	4	6	30
≦0.3 mm	No Limit			No noticeable clusters

8.3.Glass Blemishes

Scratches

Width W (mm)	Length (mm) of Single Scratch
W < 0.05	No Limit
0.05 ≤ W < 0.10	25
0.10 ≤ W < 0.15	12
0.15 ≤ W	None Allowed

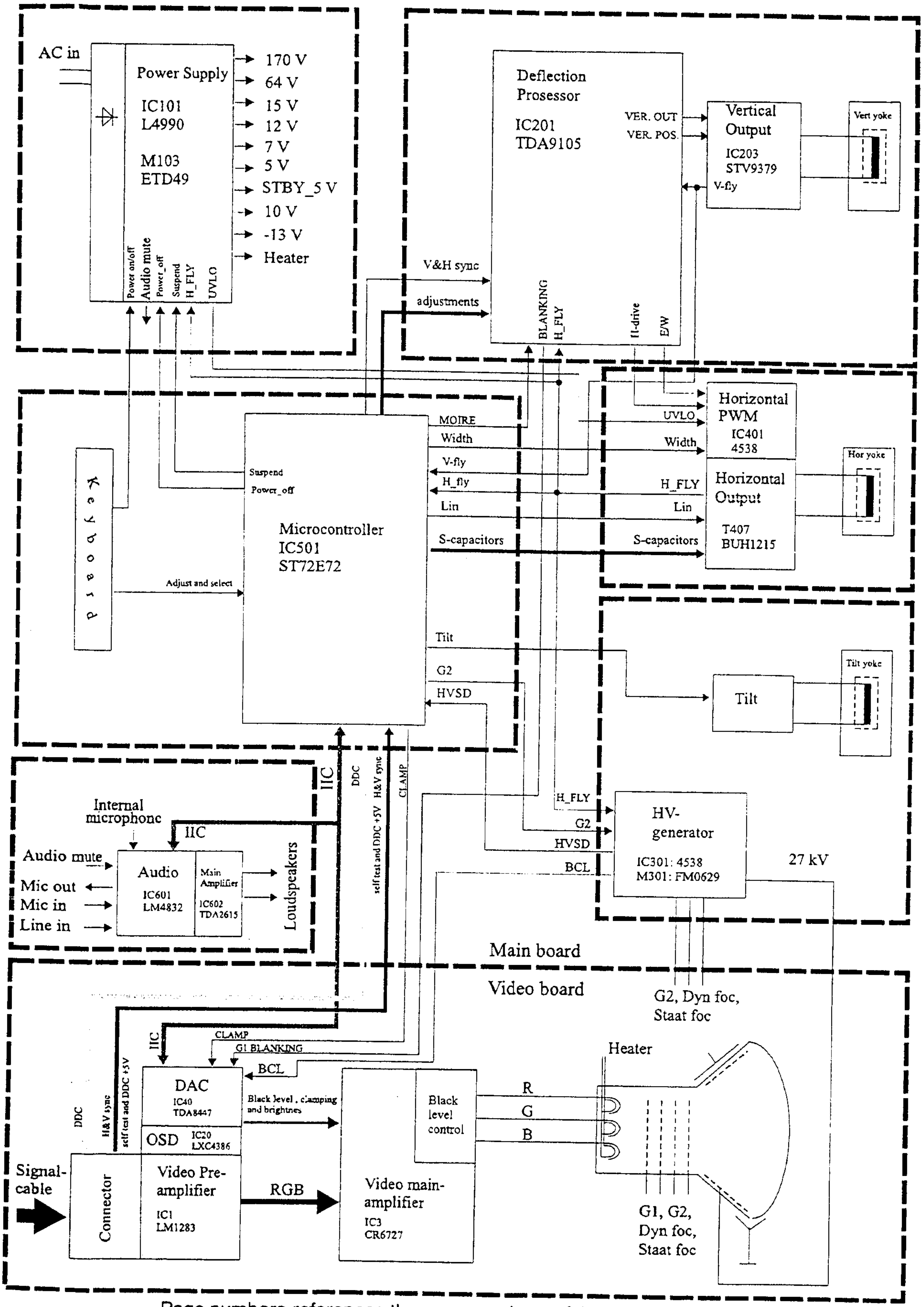
Bubbles

Average Defect Diameter (mm)	Quantity Allowed Within any 70 mm Circle	Minimum Separation (mm)
> 0.45	0	--
0.30 to 0.45	2	12.7
Air Blister (max length m 6.0) (max width 0.3)	2	12.7

Foreign Materials

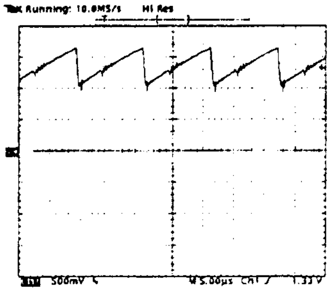
Average Defect Diameter (mm)	Quantity Allowed Within any 70 mm Circle	Minimum Separation (mm)
less than 0.25	No Limit	No Requirement
0.25 to 0.45	2	12.7
> 0.45	0	--

The size of an irregularly sharped blemish is equal to its equivalent diameter, defined as the averange of the major and minor axes.


AC in
Power Supply
IC101
L4990
M103
ETD49
170 V
64 V
15 V
12 V
7 V
5 V
STBY_5 V
10 V
-13 V
Heater
Power on/off
Audio mute
Power_off
Suspend
H_FLY
UVLO
Deflection Prosessor
IC201
TDA9105
VER. OUT
VER. POS.
Vertical Output
IC203
STV9379
V-fly
Vert yoke
V&H sync
adjustments
BLANKING
H_FLY
H-drive
E/W
Horizontal PWM
IC401
4538
UVLO
Width
Horizontal Output
T407
BUH1215
Hor yoke
H_FLY
Lin
S-capacitors
Keyboard
Adjust and select
Suspend
Power_off
Microcontroller
IC501
ST72E72
MOIRE
Width
V-fly
H_fly
Lin
S-capacitors
Tilt
G2
HVSD
Tilt
Tilt yoke
IIC
DDC
self test and DDC +5V
H&V sync
CLAMP
Internal microphone
IIC
Audio mute
Mic out
Mic in
Line in
Audio
IC601
LM4832
Main Amplifier
IC602
TDA2615
Loudspeakers
H_FLY
G2
HVSD
BCL
HV-generator
IC301: 4538
M301: FM0629
27 kV
Main board
Video board
G2, Dyn foc, Staat foc
Heater
IIC
CLAMP
G1 BLANKING
BCL
DAC
IC40
TDA8447
OSD
IC20
LXC4386
Black level, clamping and brightnes
Black level control
R
G
B
DDC
H&V sync
self test and DDC +5V
Signal-cable
Connector
Video Pre-amplifier
IC1
LM1283
RGB
Video main-amplifier
IC3
CR6727
G1, G2, Dyn foc, Staat foc

Page numbers references the page numbers of the schematic diagrams

1



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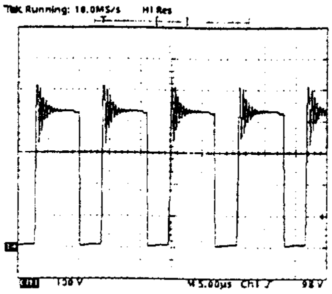

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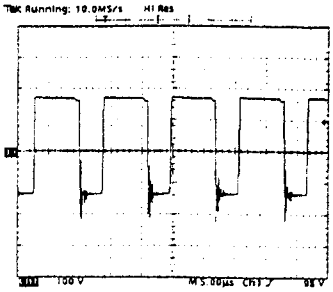

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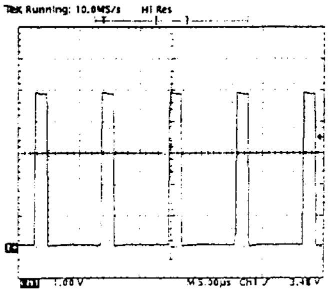

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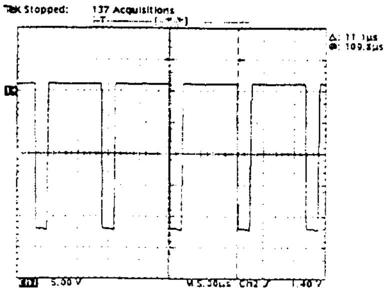

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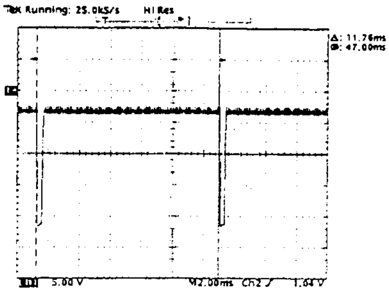

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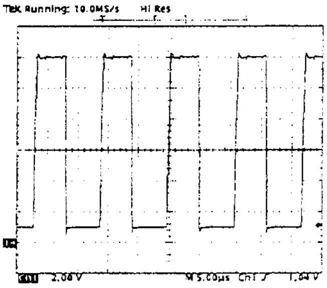

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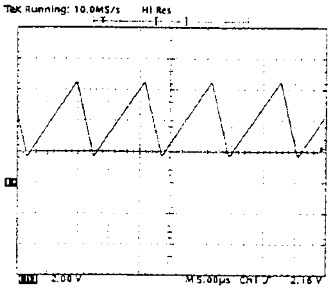

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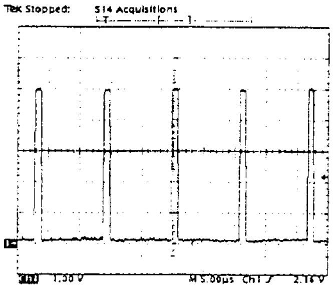

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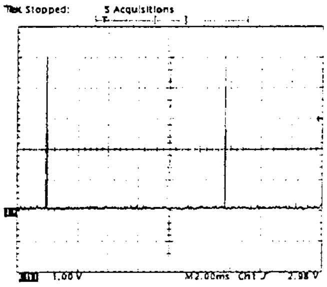

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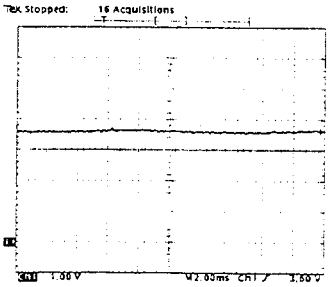

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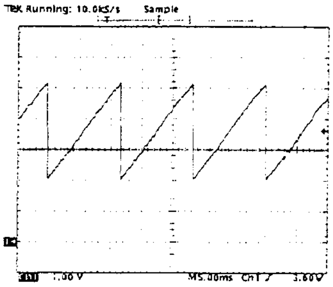

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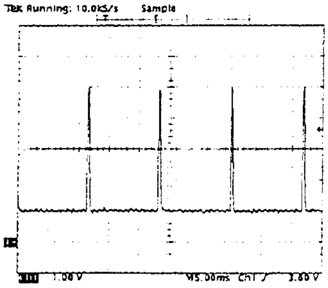

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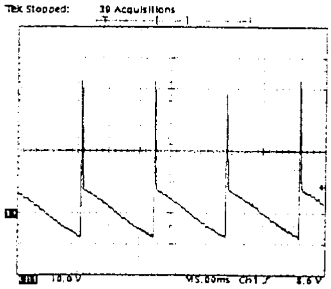

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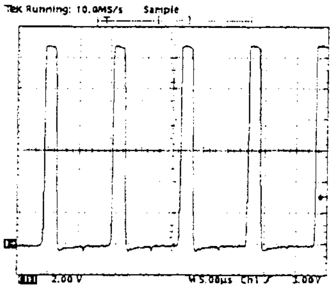

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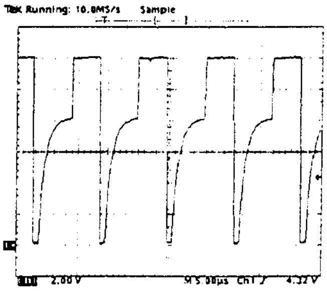

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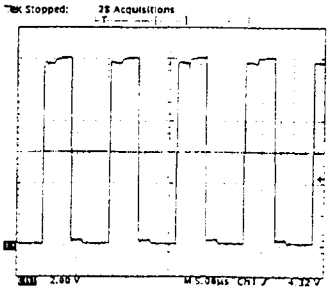

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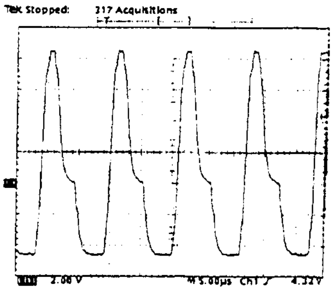

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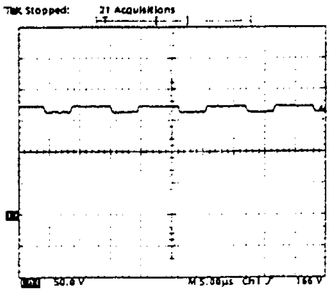

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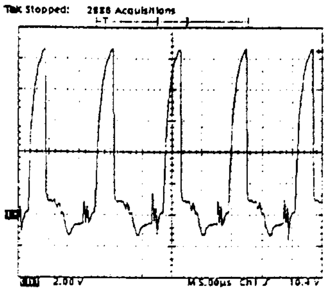

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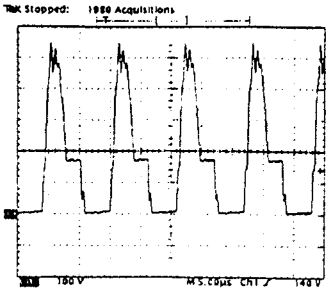

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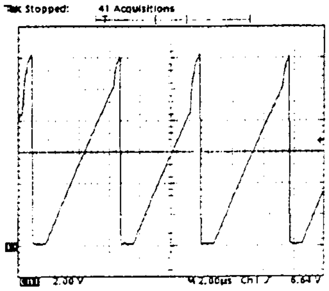

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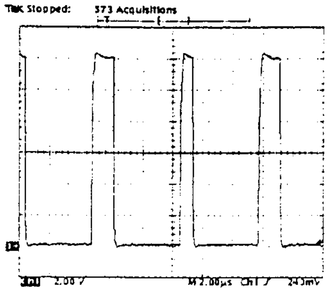

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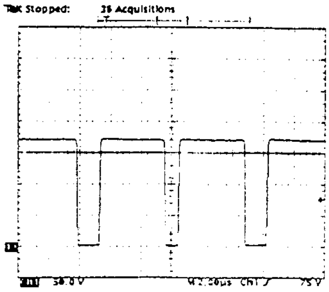

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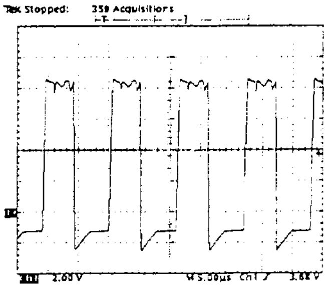

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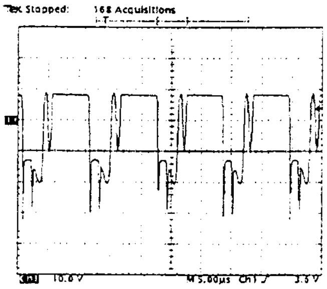

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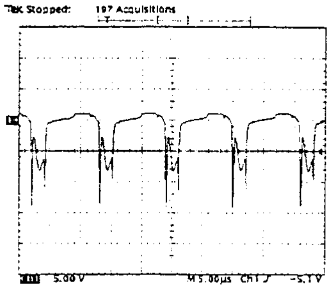

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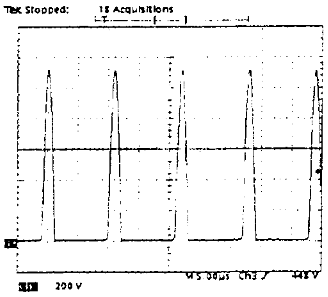

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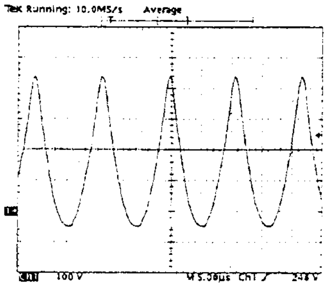

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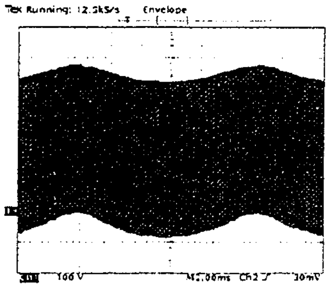

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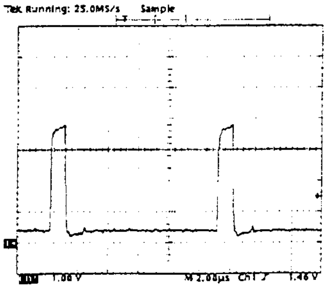

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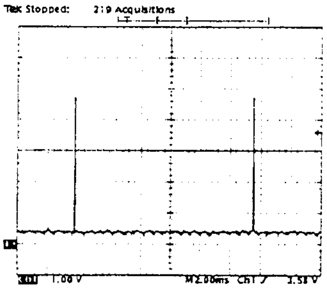

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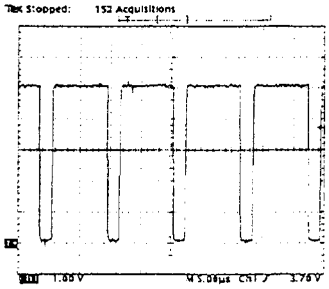

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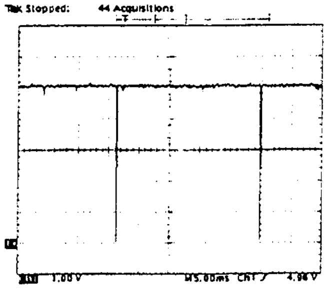

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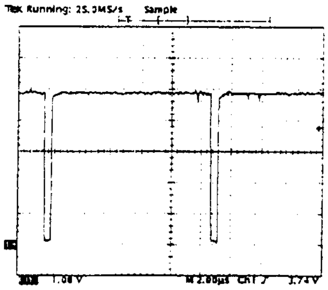
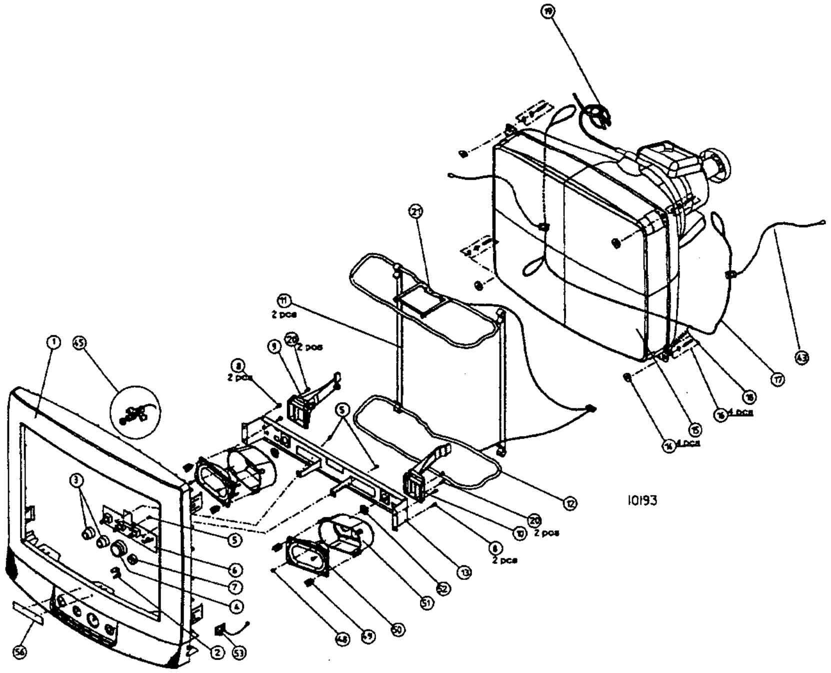
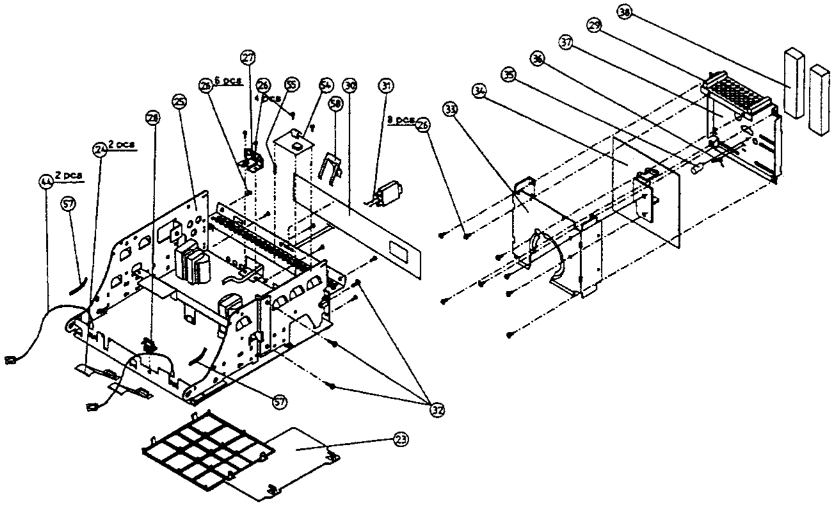


Spare Parts

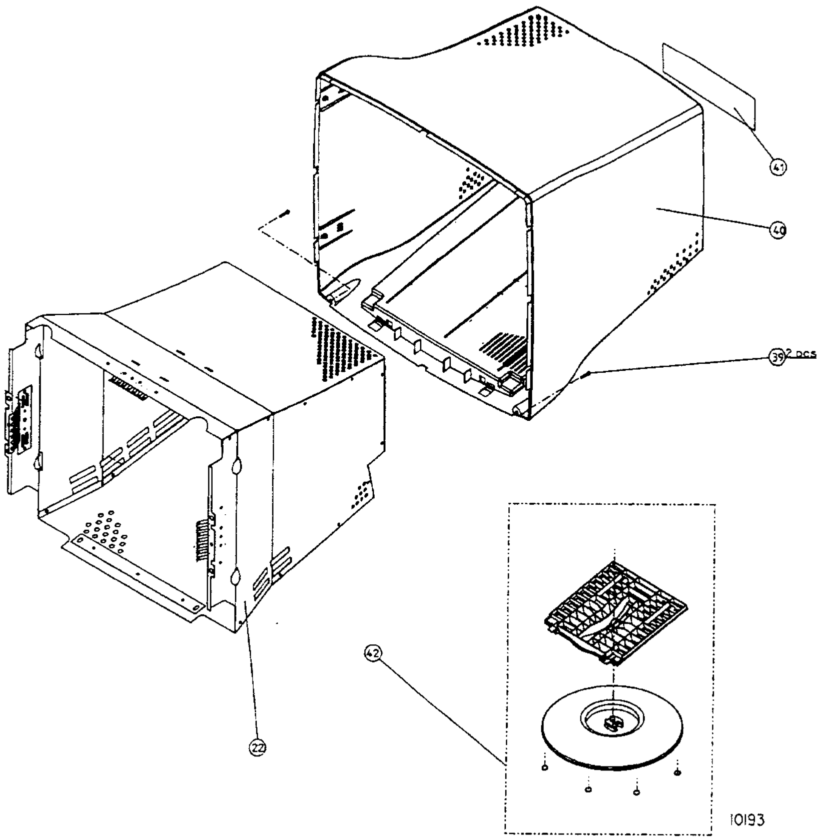
P/N	Description	Emission	Prod P/N
447Xpro	17" Nokia Basic EU Model	TCO	447G051
447Xpro	17" Nokia Basic US Model	TCO	447G059
447Xpro/A	17" Nokia Audio EU Model	TCO	447G151
447Xpro/A	17" Nokia Audio US Model	TCO	447G159
447Xpro	17" Nokia USB US Model	TCO	447G251
447Xpro	17" Nokia USB US Model	TCO	447G259
447Xpro/A	17" Nokia USB+Audio EU Model	TCO	447G351
447Xpro/A	17" Nokia USB+Audio US Model	TCO	447G359
447XiPlus	17" Nokia EU Model	TCO	447G551
447XiPlus	17" Nokia US Model	TCO	447G559



Part Number	Description	PG	Item Number	
UM7670A	Bezel DN40435 Galley	24	1	051 059 251 259
UM7670B	Bezel DN40585 Galley		1	551 559
UM7672A	Bezel DN40469 Audio Galley	25	1	151 159 351 359
UA7064	Light pipe / Valojohde	03	2	
UT1831	Nuppi,pieni/ Knob,small	07	3	
UT1830	Nuppi,iso/ knob,big	08	4	
WC0350	Pt-ruuvi / Pt-screw KB30x6 WN1442	01	5	
SMY046	Näppäinmoduli / Control module	19	6	
UT1832	Painike/button	03	7	
WC0353	Pt-ruuvi / Pt-screw KB40x10 WN1447	01	8	
UG0697	Sarana / Hinge left	06	9	
UG0698	Sarana / Hinge right	06	10	
UG1023	Demakelan pidin / Degausing coil holder	03	11	
FD0176	Demakela / Demagn. coil	23	12	
UC6916	Tukipelti/Support shield	08	13	
UL0131	Kitkalevy / Friction plate	01	14	
NM1030	Kuvaputki / Picture tube Sony 17"' CDT 17FRP-A1	65	15	
WC0352	Pt-ruuvi / Pt-screw K50x33 WN1446	01	16	
SE2681	Maadoitusnauha / Ground wire	03	17	
UC3016	Maadoitusjousi / Ground spring	02	18	
UJ0220	Johdonpidike / Wire holder	05	19	
WC0531	Pt-ruuvi / Pt-screw	01	20	
UG1028	Demakelan pidin/ Degausing coil holder	05	21	
SE2691	Maadoitusjohto/ Ground wire	03	43	
SE2713	Microphone wire	21	45	151 159 351 359
WC0347	Pt-ruuvi /Pt- screw KB 35x8 WN 1441	01	48	151 159 351 359
UL0140	Fastener	03	49	151 159 351 359
QP0233	Kaiutin / Loudspeaker	18	50	151 159 351 359
UG1026	Kaiutinboxi/ Loudspeakerbox	06	51	151 159 351 359
UL0139	Fastener	03	52	151 159 351 359
SMY045	Liitinpaneli/ Connector module	19	53	
UA1244	Badge NOKIA	06	56	
ZZ2766	TCO95 Label 25MM	03		



Part Number	Description	PG	Item Number	
UG0699	Tukiristikko / Support grid	10	23	
UC6880	Maadoitusjousi / Ground spring	08	24	
SMA203	Peruslevy / Main board	60	25	051 059
SMA210	Peruslevy / Main board Audio	60	25	151 159
SMA211	Peruslevy / Main board USB	61	25	251 259
SMA212	Peruslevy / Main board USB Audio	61	25	351 359
SMA229	Main board 447XiPlus		25	551 559
WC0036	Kuusioruuvi / Screw UNI6950 kaulus	01	26	
UC6801	Vedon poistaja / Strain reliefer	09	27	
UJ0217	Johtosidoke / Edge hold.wire	03	28	
UA1319	Pehmustetuki/ Cushion support	01	29	
ZZ2801	Label set 447G USB/Audio	12	30	351 359
ZZ2807	Label set 447G Audio	12	30	151 159
ZZ2808	Label set 447G USB	12	30	251 259
ZZ2809	Label set 447G 447G	12	30	051 059 551 559
QM0296	Signaalikaapeli / Signal cabel	25	31	
WC0450	Hexagon + torx10 tapping screw 3,9 x 16 Zn	02	32	
UC6871	Kansi / Cover shield	11	33	
SMH147	Kantalevy / Base module	41	34	
UG0778	Tukinasta / Support pin	01	35	
UC6896	Maadoitusjousi / Ground spring	02	36	
UC6870	Kantalevyn suoja / Base module shield	07	37	
UA1318	Pehmustetuki / Cushion support	03	38	
SE2651	Maadoitusjohto/ Ground Wire	06	44	
SMY040	USB-levy/ USB-board	31	54	251 259 351 359
UG1002	Tuki / Mini support	03	55	251 259 351 359
UG0814	Eriste/ Insulator	01	57	
UC6883	Jousi/ Spring	03	58	
SE2712	Loudspeaker wire	10		151 159 351 359
SE2713	Microphone wire	21		151 159 351 359



Part Number	Description	PG	Item Number	
UC6931	Peltivaipan kp. / Plate cover assembly	25	22	
WC0354	Pt-ruuvi / Pt-screw K40x20 WN1447	01	39	
UD0637	Takakotelo / Back cover	27	40	
ZZ2801	Label set 447G USB/Audio	12	41	351 359
ZZ2807	Label set 447G Audio	12	41	151 159
ZZ2808	Label set 447G USB	12	41	251 259
ZZ2809	Label set 447G 447G	12	41	051 059 551 559
UDX098	Jalan kokoonpano / Stand assembly	20	42	

Part Number	Description	PG	Item Number	
Cables:				
QM0028	Power Cord 3*1,0MM2 L=2,5M Grey	18		051 151 251 351 551
QM0049	Power Cord 3*18AWG L=1,8M RAL0732	18		059 159 259 359 559
QM0150	Audio Cable 3.5MM TO 2XRCA	13		151 159 351 359
QM0151	Microphone Cable 3,5MM TO 3,5MM	12		151 159 351 359
Packing Materials:				
ZA1893	Packing Support L/R PN10178 447G	19		
ZA2552	Packing Box PN10196	20		
ZA0453	Plasticbag 230x320 Salpap73050726	02		
Adapters:				
QK1518	Multimode MacAdapter	17		059 159 259 359 559
Documents:				
ZF5683	Warranty Card NOKIA USA Colorfic	02		059 159 259 359 559
ZF5737	TCO95 Leaflet	02		
ZF5755	Leaflet Cleaning 447G	02		051 059 151 159 251 259 351 359 551 559
ZF5756	User Guide Nokia 447G AU EN FR SP	15		051 059 151 159
ZF5757	User Guide Nokia 447G AU GE IT SW FI	16		051 151
ZF5763	User Guide Nokia 447G A+U EN FR SP	18		251 259 351 359
ZF5764	User Guide Nokia 447G A+U GE IT SW FI	18		251 351
ZF5775	User Guide Nokia 447XiPlus EN FR SP	16		551 559
ZF5776	User Guide Nokia 447XiPlus GE IT SW FI	16		551
ZK0007	Nokia W95 Setup 3.5"	09		

Part Number	Description	PG	Item Number	
AA0665	CF RES 0W25 470R J 2,5–7	01	RA 427 238 223	
AA0761	CF RES 0W25 4M7 J 2,5–7	01	RA 102 103 334	
AA0673	CF RES 0W25 1K0 J 2,5–7	01	RA 421 231 531 586 579 581	
AA0677	CF RES 0W25 1K5 J 2,5–7	01	RA 118 433 458	
AA0679	CF RES 0W25 1K8 J 2,5–7	01	RA 432	
AA0681	CF RES 0W25 2K2 J 2,5–7	01	RA 555 169	
AA0687	CF RES 0W25 3K9 J 2,5–7	01	RA 425	
AA0689	CF RES 0W25 4K7 J 2,5–7	01	RA 123 303 532 534 542 543 544 545 546	
AA0689	CF RES 0W25 4K7 J 2,5–7	01	RA 547 551 230	
AA0697	CF RES 0W25 10K J 2,5–7	01	RA 224 311 333 164 565 558 212 589	
AA0699	CF RES 0W25 12K J 2,5–7	01	RA 453 452	
AA0701	CF RES 0W25 15K J 2,5–7	01	RA 406	
AA0705	CF RES 0W25 22K J 2,5–7	01	RA 549	
AA0715	CF RES 0W25 56K J 2,5–7	01	RA 175 176	
AA0721	CF RES 0W25 100K J 2,5–7	01	RA 172 237 174 618	
AA0725	CF RES 0W25 150K J 2,5–7	01	RA 324	
AA0729	CF RES 0W25 220K J 2,5–7	01	RA 173 414	
AA0737	CF RES 0W25 470K J 2,5–7	01	RA 503	
AA0755	CF RES 0W25 2M7 J 2,5–7	01	RA 390	
AA0757	CF RES 0W25 3M3 J 2,5–7	01	RA 111	
AA0937	CF RES 0W5 470K J 4–11	01	RA 104 105 106 107	
AB0585	NF RES 0W25 0R22 J 2,5–7 CF	01	RA 148 318	
AB0585	NF RES 0W25 0R22 J 2,5–7 CF	01	RA 151	SMA210/212
AB0593	NF RES 0W25 0R47 J 2,5–7 CF	01	RA 411	
AB0609	NF RES 0W25 2R2 J 2,5–7 CF	01	RA 281	
AB0617	NF RES 0W25 4R7 J 2,5–7 CF	01	RA 442 443	
AB0625	NF RES 0W25 10R J 2,5–7 CF	01	RA 222 408 461	
AB0633	NF RES 0W25 22R J 2,5–7 CF	01	RA 116	
AB0649	NF RES 0W25 100R J 2,5–7 CF	01	RA 125	
AB0795	NF RES 0W5 0R56 J 4–11 CF	02	RA 119 120	
AB0801	NF RES 0W5 1R0 J 4–11 CF	02	RA 424	
AB0805	NF RES 0W5 1R5 J 4–11 CF !	01	RA 121	
AC3366	CHIPRES 5K90 0W1 1% 0805	01	RA 518	
AC3405	CHIPRES 15K0 0W1 1% 0805	01	RA 566	
AC3411	CHIPRES 17K4 0W1 1% 0805	01	RA 567	
AC3421	CHIPRES 22K1 OW1 1% 0805	01	RA 255 259	
AC3444	CHIPRES 38K3 0W1 1% 0805	01	RA 254	
AA0649	CF RES 0W25 100R J 2,5–7	01	RA 321 354 505	
AC3460	CHIPRES 56K2 0W1 1% 0805	01	RA 250	
AC3616	CHIPRES 215K 0W1 1% 0805	01	RA 258	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA 801 802 820 821 822 806 807 808 809 810	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA 811 812 813 814 815 816 817 818 823	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	FRA 602 603 606 607 610 611 614 615 618 619	SMA211/212
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RA 211 410 419	
AC4433	CHIPRES 0W1 22R 5% 0805 2013	01	RA 278 309 310 316 441	
AC4441	CHIPRES 0W1 47R 5% 0805 2013	01	RA 583 584 585	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA 146 305 339 340 444 445 446 447 448 449	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA 570 571	
AC4453	CHIPRES 0W1 150R 5% 0805 2013	01	RA 207	
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RA 153 154 407 529	
AC4461	CHIPRES 0W1 330R 5% 0805 2013	01	RA 134 439	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	RA 167 168 229 423 703	
AC4469	CHIPRES 0W1 680R 5% 0805 2013	01	RA 602 604	SMA210/212
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA 171 131 162 594 210 326 327 337 430 440	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA 590 591 510 519 522 358 524 598 124	
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	01	RA 206 209	
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	01	RA 352 413	
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	01	RA 161 217	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA 117 314 508 514 557 306 165	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA 166 561 501 338	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA 616	SMA210/212
AC4485	CHIPRES 0W1 3K3 5% 0805 2013	01	RA 603 605 552 553 320	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA 701 205 213 249 304 313 409 506 507	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA 511 512 513 515 516 530 535 556	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA 523 418 596	
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	01	RA 244 245 252 253	
AC4493	CHIPRES 0W1 6K8 5% 0805 2013	01	RA 246 115 202	
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	01	RA 702 126	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 158 127 147 114 177 509 219 234 247 248	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 301 302 328 330 331 160 564 617 575 525	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 403 597 336 517 588 620 416 384 559	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 399 573 536 537 538 539 540 541	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA 623 624	SMA210/212
AC4499	CHIPRES 0W1 12K 5% 0805 2013	01	RA 208 214 220	
AC4501	CHIPRES 0W1 15K 5% 0805 2013	01	RA 415 574 404	
AC4503	CHIPRES 0W1 18K 5% 0805 2013	01	RA 550	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA 129 130 226 240 548 393 451 132 108	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA 610	SMA210/212
AC4507	CHIPRES 0W1 27K 5% 0805 2013	01	RA 241 242 243 256 257 401	
AC4509	CHIPRES 0W1 33K 5% 0805 2013	01	RA 402 562 133 232 159	
AC4511	CHIPRES 0W1 39K 5% 0805 2013	01	RA 128 261 263	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA 578 580 221 239 582 386 387 568 460 227	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA 163 355 215 595 156 459 312	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA 612 614	SMA210/212
AC4515	CHIPRES 0W1 56K 5% 0805 2013	01	RA 218 359	
AC4517	CHIPRES 0W1 68K 5% 0805 2013	01	RA 216	
AC4519	CHIPRES 0W1 82K 5% 0805 2013	01	RA 335	
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	RA 504 502 526 351 563 455 456 554	

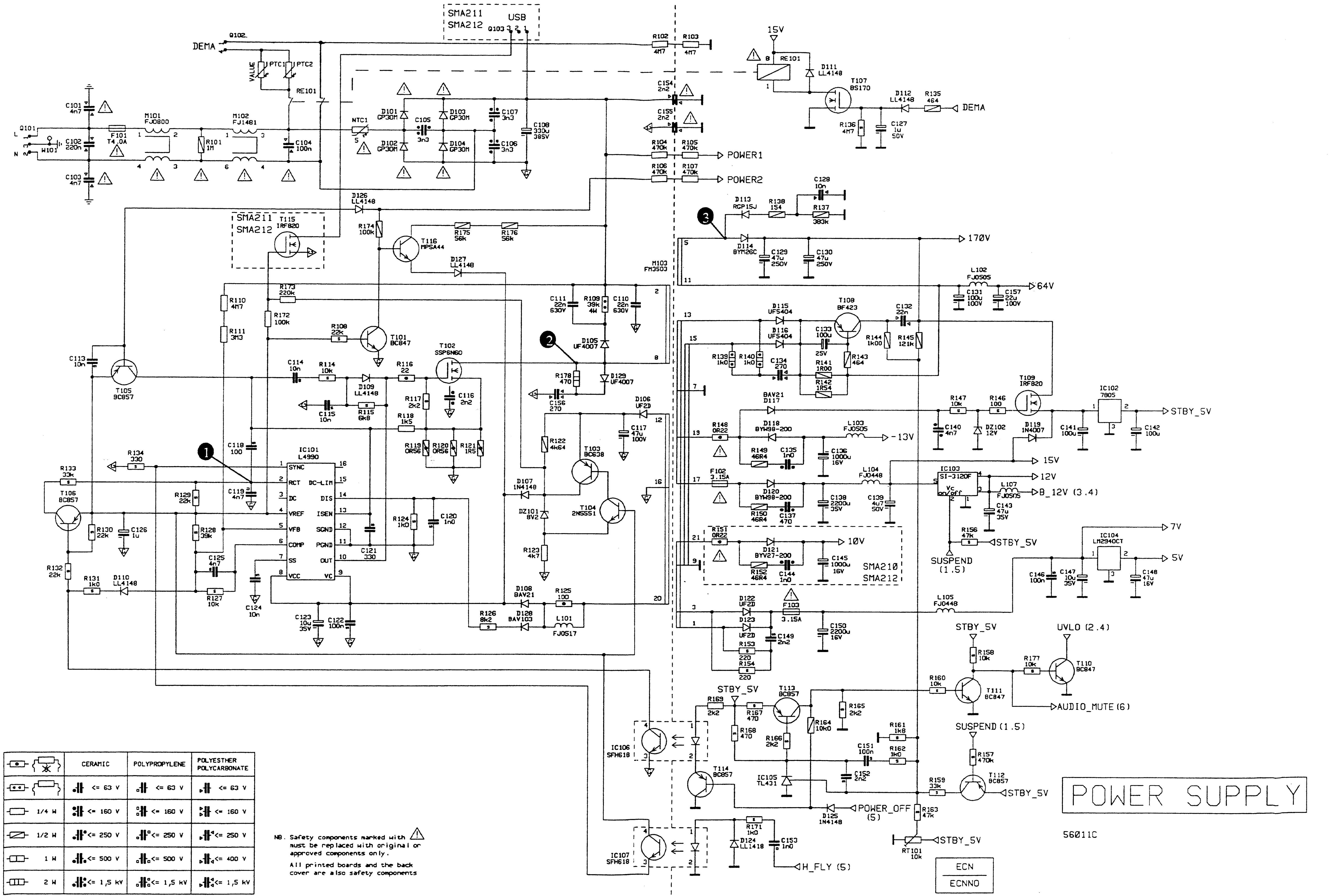
Part Number	Description	PG	Item Number	
AC4523	CHIPRES 0W1 120K 5% 0805 2013	01	RA 203	
AC4529	CHIPRES 0W1 220K 5% 0805 2013	01	RA 262 593 235 619	
AC4533	CHIPRES 0W1 330K 5% 0805 2013	01	RA 576	
AA0637	CF RES 0W25 33R J 2,5–7	01	RA 422	
AC4541	CHIPRES 0W1 680K 5% 0805 2013	01	RA 611	SMA210/212
AC4537	CHIPRES 0W1 470K 5% 0805 2013	01	RA 157 319 394 560	
AC4539	CHIPRES 0W1 560K 5% 0805 2013	01	RA 204	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RA 233 356 357	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RA 569	
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	01	RA 325	
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	01	RA 385 388 389	
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	01	RA 136	
AC4569	CHIPRES 0W1 10M 5% 0805 2013	01	RA 533	
AC8799	CHIPRES 0W12 0R0 JUMPER 1206	01	JA 803 804 805 819	
AD0373	COMPRES 0W5 1K0 K 4–11	01	RA 332	
AD0445	COMPRES 0W5 1M0 K 4–11	01	RA 101	
AG3101	MF RES 0W5 1R00 F TC200 2,5–7	01	RA 279 141	
AG3119	MF RES 0W5 1R54 F TC200 2,5–7	01	RA 142	
AG3165	MF RES 0W5 4R64 F TC200 2,5–7	01	RA 454	
AG3201	MF RES 0W5 10R0 F TC50 2,5–7	01	RA 341	
AG3233	MF RES 0W5 21R5 F TC50 2,5–7	01	RA 437	
AG3265	MF RES 0W5 46R4 F TC50 2,5–7	01	RA 150 149 429 228	
AG3265	MF RES 0W5 46R4 F TC50 2,5–7	01	RA 152	SMA210/212
AG3301	MF RES 0W5 100R F TC50 2,5–7	01	RA 315	
AG3319	MF RES 0W5 154R F TC50 2,5–7	01	RA 138	
AG3343	MF RES 0W5 274R F TC50 2,5–7	01	RA 280	
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RA 143 135	
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RA 621 622	SMA210/212
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RZ 1 2	SMA210/212
AG3401	MF RES 0W5 1K00 F TC50 2,5–7	01	RA 329 144	
AG3465	MF RES 0W5 4K64 F TC50 2,5–7	01	RA 435 436 122	
AG3473	MF RES 0W5 5K62 F TC50 2,5–7	01	RA 272 277	
AG3489	MF RES 0W5 8K25 F TC50 2,5–7	01	RA 307	
AG3501	MF RES 0W5 10K0 F TC50 2,5–7	01	RA 613 615	SMA210/212
AG3509	MF RES 0W5 12K1 F TC50 2,5–7	03	RA 270 271	
AG3525	MF RES 0W5 17K8 F TC50 2,5–7	01	RA 260	
AG3557	MF RES 0W5 38K3 F TC50 2,5–7	01	RA 431 434	
AG3565	MF RES 0W5 46K4 F TC50 2,5–7	01	RA 308 587	
AG3589	MF RES 0W5 82K5 F TC50 2,5–7	01	RA 323 405	
AG3609	MF RES 0W5 121K F TC50 2,5–7	01	RA 145	
AG3657	MF RES 0W5 383K F TC50 2,5–7	01	RA 137 412	
AG3765	MF RES 0W5 4M64 F TC50 2,5–7	01	RA 110	
AJ2323	MO RES 2W0 1R5 J 6–17	01	RA 601	SMA210/212
AJ2443	MO RES 2W0 4R7 J 6–17	01	RA 417 428	
AJ2603	MO RES 2W0 22R J 6–17	02	RA 438	
AJ2763	MO RES 2W0 100R J 6–17	02	RA 426	
AJ2923	MO RES 2W0 470R J 6–17	02	RA 178	
AJ3003	MO RES 2W0 1K0 J 6–17	02	RA 139 140	
AJ3385	MO RES 4W0 39K J 9–22	02	RA 109	
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PA 703 702	
AQ2219	TPMET.AA H10 47K RM 5X10 6–HOLE	03	RTA 301 401	
AQ2347	TPMET. H10 10K RM 5X10 6–HOLE	04	RTA 101	
AW0079	PTC–THERMISTOR 18R/25'C RM5	07	PTCA 1 2	
AW0111	NTC–THERMISTOR 5R0/25'C RM5+2,5	07	NTCA 1	
CA0322	CERCAP Y5P 2N2 K 1KV Y5: D10	02	CA 318	
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	02	CA 323	
CB3059	CHIPCAP NP0 220P G 50V 0805	02	CA 403	
CB3129	CHIPCERCAP NP0 15P 50V J 0805	03	CA 517 518	
CB3133	CHIPCERCAP NP0 22P 50V J 0805	01	CA 339 533	
CB3141	CHIPCERCAP NP0 47P 50V J 0805	01	CA 545 531 546 406 547 407	
CB3145	CHIPCERCAP NP0 68P 50V J 0805	01	CA 302	
CB3151	CHIPCERCAP NP0 100P 50V J 0805	01	CA 118 301 303 313 534 240 241	
CB3155	CHIPCERCAP NP0 150P 50V J 0805	01	CA 535	
CB3163	CHIPCERCAP NP0 330P 50V J 0805	01	CA 121 314 501	
CB3171	CHIPCERCAP NP0 680P 50V J 0805	03	CA 212	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	03	CA 120 217 237 242 308 315	
CC0110	CERCAP Y5P 150P K 500V Y5: D8	01	CA 418 419	
CC0170	CERCAP Y5P 470P K 500V Y5: D8	01	CA 137	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CA 135 411 153	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CA 144	SMA210/212
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	01	CA 417 116 420	
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	02	CA 105 106 107	
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	01	CA 140	
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	01	CA 149 152	
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	01	CA 234 338 125	
CC3310	CHIPCERCAP X7R 8N2 10% 50V 0805	01	CA 621 625 626 628	SMA210/212
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 115 113 205 214 219 220 221 222 223 224	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 304 329 404 512 202 124 558 114 540	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA 543	
CC4320	CHIPCAP X7R 10N K 50V 1206	02	CA 204	
CC4400	CHIPCAP X7R 47N K 50V 1206	02	CA 210 211 502 523	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 122 548 146 244 334 209 216 227 232 316	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 151 702 402 424 431 432 433 434 435 436	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 442 503 522 529 552 445 538	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA 613 616 617 618 619 620 623 627 611	SMA210/212
CE0083	X2–CAP 220N M 275VAC Y22,5	08	CA 102	
CE0116	Y–CAP 2N2 M 400VAC Y12,5 SDPJ16	04	CA 154 155	
CE0210	X2–CAP 100N M 250VAC Y15	05	CA 104	

Part Number	Description	PG	Item Number	
CE0126	Y–CAP 4N7 M 400VAC Y12,5 SDPJ21	04	CA 101 103	
CE2034	IMPCAP 270P K 1K5V Y15 051118	04	CA 134 156	
CE2094	IMPCAP 820P K 1K5V Y15 061218	04	CA 307	
CE2196	IMPCAP 2N2 J 2KV Y22,5 081628	06	CA 414 413	
CE2802	IMPCAP 51N J 400V Y15 081418	03	CA 439 415 425	
CE2931	IMPCAP 100N J 250V Y15 081418	04	CA 426	
CE2933	IMPCAP 100N K 400V Y15 091518	04	CA 438 421	
CE3010	IMPCAP 200N J 250V Y22,5	06	CA 427	
CE3088	IMPCAP 400N J 250V Y22,5	07	CA 428	
CE3180	IMPCAP 800N J 250V Y22,5	10	CA 429	
CE3270	IMPCAP 1600N J 250V Y27,5	12	CA 430	
CG2665	PPRCAP KP 4N7 J 63V Y5: 060808	03	CA 119	
CK0163	PESCAP MKT 22N K 250V Y10 051113	02	CA 408 132	
CK0165	PESCAP MKT 22N K 630V Y10 061213	02	CA 110 111	
CK0460	PESCAP MKT 1U0 K 63V Y15 061118	04	CA 622 624	SMA210/212
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	02	CA 305 128	
CK2464	PESCAP MKT 22N K 63V Y5: 030708	02	CA 206 530	
CK2545	PESCAP 47N K 63V Y5: 030708	02	CA 312 218	
CK2626	PESCAP MKT 100N K 63V Y5: 030808	02	CA 336 410	
CK2663	PESCAP MKT 150N J 63V Y5: 040908	03	CA 225	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	03	CA 310	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	03	CA 614 615	SMA210/212
CK0341	PESCAP MKT 220N K 100V Y10 051113	03	CA 233	
CK2784	PESCAP MKT 470N K 63V Y5: 051008	03	CA 228 322 555	
CN0095	ELCAP 330U M 385V RM10 30 X 45	18	CA 108	
CN0320	ELCAP 10U M 25V RM5: 8X8	02	CA 551 701	
CN0379	ELCAP' 22U M 100V RM5 :105'11*14	02		
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CA 317 319 320 126 127	
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CA 238	
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	CA 311 549 123 405 514 147 526 444	
CN2037	ELCAP 10U M 160V RM5 105' 11X21	04	CA 422	
CN2029	ELCAP 4U7 M 100V RM5: 105' 6X12	03	CA 245	
CN2232	ELCAP' 4U7 M 200V RM5 105'10X20	04	CA 440	
CN2435	ELCAP 47U M 35V RM5: 105' 9X12	02	CA 148 143 208 226 446	
CN2461	ELCAP– 47U M 100V RM5 105, 10X16	04	CA 117	
CN2476	ELCAP 47U M 250V RM7,5 105'17X26	09	CA 130 129 306 447	
CN2523	ELCAP 100U M 25V RM5 :105' 9*14	03	CA 133 141 142	
CN2543	ELCAP 100U M 50V RM5 105 11X13	02	CA 215 401 230	
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	05	CA 131	
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	01	CA 213 309	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CA 423 556 505 506 507 508 509 510 511 513	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CA 528 520 521 201 235	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CZ 1 2	
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	02	CA 203 333	
CN2575	ELCAP 22UF M 16V RM5: 105'6X13MM	01	CA 516	
CN2581	ELCAP 220U M 35V RM5 105 11X13	03	CA 229 231	
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	05	CA 136	
CN2749	ELCAP 2200U M 16V RM5 105 14X26	04	CA 150	
CN3150	ELCAP, 4U7 M 50V RM5 105'05 X11	01	CA 443 139	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA 412	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA 610 612 145	SMA210/212
CN3427	ELCAP,2200U M 25V RM7,5 105'16X25	05	CA 138	
FA4000	CHIP INDUCTOR 600OHM 200MA 0805	01	FRA 632 633 634	SMA210/212
FA4000	CHIP INDUCTOR 600OHM 200MA 0805	01	FRZ 622 623 624 625 626 627 628 629 630 631	SMA210/212
FJ0448	CHOKE 13UH FERRITE 2X15	02	LA 104 105	
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	LA 102 103 107 301	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	03	LA 101	
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA 401 402	
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA 621	SMA210/212
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA 601 604 605 608 609 612 613	SMA211/212
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA 616 617 620	SMA211/212
FJ0730	LEAD INDUCTOR 270UH 10%	05	LA 404	
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	03	MA 101	
FJ1809	INPUT CHOKE E30 2X9MH	13	MA 102	
FJ3000	INPUT CHOKE E25/7 972UH 445R	13	MA 404	
FM0629	FLYBACK TRAFO 30..90KHZ 3NF 445R	37	MA 301	
FM2573	DRIVER TRAFO E20/6 N67 447G	12	MA 401	
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA 403	
FM2566	CENTERING COIL E25/7 1.35MH 447S	10	MA 402	
FM3506	SMPS–TRAFO ETD49 N27 447G	19	MA 103	
FU0723	FIXED LIN.COIL W/DC–COIL N–S 447S	14	LA 402	
FU0724	FIXED LIN.COIL W/DC–COIL S–N 447S	14	LA 403	
JB0048	DI DTV82F 1500V 6A TO220FI	11	DA 411	
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	04	DA 101 103 104 102	
JF0025	DI 1N4148 75V 200MA 4N	01	DA 314 508 125 107 208 119 302	
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	04	DA 105 129	
JF0033	DI UF5404 400V 3A 50NS	04	DA 409 115 116	
JF0034	DI UF5406 600V 3A 75N	09	DA 306	
JF0060	DI 1N4002 100V 1A	01	DA 207	
JF0062	DI BA159 1000V 400MA 500N	02	DA 426	
JF0072	DI BAV21 200V 250MA 50N	01	DA 108 204 117 212	
JF0073	DI RGP10G 400V 1A 150N	04	DA 433 412 414 417 419 420 421 422 423 424	
JF0073	DI RGP10G 400V 1A 150N	04	DA 425	
JF0074	DI RGP15J 600V 1.5A 250N	04	DA 113	
JF0096	DI BYV28–100 100V 3.5A 30N	07	DA 408	
JF0104	DI BYV27–200 200V 2A 25N SOD57	08	DA 121	SMA210/212
JF0106	DI UF2D–7000 200V 2A 50N MUOVI	03	DA 106 122 123	
JF0168	DIODE BYW98–200 200V 3A DO–27A !	04	DA 404 118	

Part Number	Description	PG	Item Number	
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	04	DA 202 203	
JF4003	DI BAV103 200V 250MA 50NS SOD–80	07	DA 213 128	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 210 110 109 111 112 124 211 701 434	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 505 506 206 209 126 127 201 205 301 303	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 304 305 403 315 316 317 318 401 402 405	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 406 407 415 416 418 428 429 510	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA 307 308 430 431 432	
JH0054	ZDI BZX83C12 12V 0.5W 5%	01	DZA 301 401 402	
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	01	DZA 101	
JH0085	ZDI BZX83C22 22V 0.5W 5%	01	DZA 201	
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	02	DZA 502	
JH0087	ZDI BZX83C5V1 5.1V O.5W 5%	01	DZA 501	
JH0095	ZDI BZX79B12 12V 0,5W 2%	03	DZA 102	
JH4109	ZDI BZX84C5V1 5.1V 0.35W 5%	03	DZA 504	
JH4109	ZDI BZX84C5V1 5.1V 0.35W 5%	03	DZA 601 602	SMA210/212
JL0058	LED DUALCOLOR RED/GREEN 3 MM	04	LED 701	
JL0069	OPTOCOUPLER VRMS 5KV	04	ICA 106 107	
JM0099	TR BC547B N 45V 100A 200M:	01	TA 301 305 307 402	
JM0100	TR BC557B P 45V 100A 200M:	01	TA 302 306 403 425	
JM0202	TR MPSA44 N 400V 300MA TO92	03	TA 116	
JM0205	TR BF423 P 250V 25MA 60M:	03	TA 108 404	
JM0239	TR BC638 P 60V 1A 50M:	04	TA 317 103	
JM0227	TR MPS2369 N 15V 200MA 500M	03	TA 204	
JM0244	TR BF422 N 250V 25MA 60M:	02	TA 311 408 412	
JM0252	TR BC639–10 N 100V 1.5A TO92	03	TA 318 421	
JM0273	TR 2N5551 NPN 160V 0,6A	02	TA 203 205 104	
JM0280	TR 2N5401 P 150V 0.6A 100M	02	TA 409	
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	04	TA 411	
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	04	TA 414	
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA 407	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA 111 201 206 110 508 416 502 601 602 603	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA 309 401 413 422 101	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA 601 602 603	SMA210/212
JM4114	TR BC857B P 45V 100MA 150M:	02	TA 501 105 113 106 202 308 310 423 114	
JM4114	TR BC857B P 45V 100MA 150M:	02	TA 112 504 503 506	
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	02	TA 505 507	
JS0016	FET SSP6N60 N 600V 6.A 1R2 TO220	11	TA 102	
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA 406	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA 303	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA 405	
JS0030	FET IRF620 200V 5A 0.8R TO–220	07	TA 415	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA 109 115	
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA 304	
JS1006	FET BS170 N 60V 500MA	10	TA 107	
JS2001	FETARRAY SLA5038 N 5X150V 7A 0R23	21	ICA 402	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01		
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	ICA 104	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	TA 102	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	ICA 203	
JZ0010	SILICONE INSUL. 20*25*0.22MM	08	TA 407	
LM0067	IC UA7805UC +5V REGULATOR TO–220	13	ICA 102	
LM0455	IC LM358N DUAL OP–AMP DIL–8	11	ICA 302	
LM0603	IC LM2940CT LOW DROP REG.5V TO220	08	ICA 104	
LM0967	IC SI–3120FA 12V LOWDROP REG 2%	09	ICA 103	
LM0930	IC STV9379 VERT.DEFL.BOOSTER	14	ICA 203	
LM0937	IC TDA9105 DEFLECTION PROCESSOR	20	ICA 201	
LM0938	IC ST72E72 MONITOR UC,DDC DIP–56	34	ICA 501	
LM0663	IC TL431 VOLTAGE REFERENCE TO–92	06	ICA 105 508	
LM0945	IC 24C65 SERIAL EEPROM 8X8K DIP–8	16	ICA 504	
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA 101	
LM0974	IC LM4832N BOOMER DIL28	18	ICA 601	SMA210/212
LM0975	IC TDA2615 AUDIO POWER AMP SOT110	13	ICA 602	SMA210/212
LM4017	IC 74HCT02 QUAD 2–INPUT NOR SO–14	04	ICA 502	
LM4022	IC 74HCT74 DUAL D–FLIP–FLOP SO–14	04	ICA 503	
LM4111	IC 4538BT	05	ICA 301 401	
LM4208	IC 74HC86 2–INPUT EXCL. OR SO–14	04	ICA 202	
LM4406	IC LM324 QUAD OP–AMP SO–14	04	ICA 304	
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	12	ICA 506	
LZ0063	IC–SOCKET 56–POLE DUAL LEAF 1.78	10	ICA 501	
LZ0003	IC–SOCKET 8–POLE DIL SINGLE LEAF	01	ICA 504	
QA0095	CRYSTAL 8,00 MHZ HC–49/U	07	XA 501	
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	08	SWA 701	
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	15	PA 701	
QH0068	RELAY PCB–MOUNT 12V 5A/250V DPDT	13	REA 101	
QK1222	ROW CONN 1X02 2,5 VERT STG LOCK	02	QA 613	SMA210/212
QK1223	ROW CONN 1X03 2,5 VERT STG LOCK	02	QA 103	SMA211/212
QK1224	ROW CONN 1X04 2,5 VERT STG LOCK	02	QA 618 619	SMA210/212
QK1225	ROW CONN 1X05 2,5 VERT STG LOCK	02	QA 610	SMA210/212
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	02	QA 102	
QK1702	PICOFLEX HEADER 1X06 1,27MM	03	QA 611	
QK1415	CRIPLET CONN FOR 2–SIDED PCB	01	QA	
QK1464	"ROW CONN ""JST"" 1X03 2,5 VERT"	03	QA 301	
QK1494	CONN PLUG FOR DY W–P3005–01	03	QA 201	
QK1495	CONN PLUG FOR DY CM16506–0101	03	QA 401	
QK1490	MINIATURE JACK 3.5MM VERT GREY 7W	08	QZ 2 3	SMA210/212
QK1587	COOLING & SUPP.PART FOR RESISTOR	01	RA 109 109	
QK1599	COOLING & SUPP.PART FOR RES L12MM	01	NTCA 1	
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	08	QA 101	

Part Number	Description	PG	Item Number	
QK1675	SOLDER SUPPORT FOR CABLE 2-POS	02	QA 621	SMA210/212
QK1675	SOLDER SUPPORT FOR CABLE 2-POS	02	QZ 4 5	SMA210/212
QK1694	RCA JACK UNIT 2X6.3MM R/W PCB90	06	QA 614	SMA210/212
QK1694	RCA JACK UNIT 2X6.3MM R/W PCB90	08	QA	SMA210
QK1701	PICOFLEX HEADER 1X04 1,27MM	03	QA 503	
QK1702	PICOFLEX HEADER 1X06 1,27MM	03	QA	SMA210/212
QK1703	PICOFLEX HEADER 1X08 1,27MM	03	QA 504	
QK1712	PIN JACK 3,6MM MONO H=6,5MM	03	QA 615	SMA210/212
QK1713	USB CONN SERIE-A DOUBLE STACKED	11	QA 601 602	SMA211/212
QK1714	USB CONN SERIE-B	07	QA 603	SMA211/212
QM1001	PICOFLEX ASSY BI-IDC 8-POS 150MM	08	QA 701	
QM1013	PICOFLEX ASSY BI-IDC 10-POS 400MM	10	QA 202	
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	03	GLA 302 303	
QM1019	PICOFLEX ASSY BI-IDC 16-POS 420MM	11	QA 502	
QM1025	PICOFLEX ASSY BI-IDC 6-POS 250MM	07	QZ 1	SMA210/212
QM1029	PICOFLEX ASSY BI-IDT 20POS 100MM	10	QA 604	SMA211/212
QM1030	PICOFLEX ASSY BI-IDC 4-POS 350MM	08	QZ 702	
QM1030	PICOFLEX ASSY BI-IDC 4-POS 350MM	08	QA 606	
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	01	FA 101 101	
QT0207	GLIMM LAMP 95V 6*12,5MM	04	GLA 301	
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	04	FA 102 103	
QT0776	FUSE 5*20MM T 4.0A 250V 1500A	03	FA 101	
SE2185	GROUNDING WIRE 7752	03	WA 101	
QK1035	CABLE SHOE 160101-2	02		
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01		
SE2601	GROUNDING WIRE 449M	03	WA 601	
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01	3	
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	01	2	
SE2679	GROUNDING WIRE 447S	03	WA 301	
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01	3	
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	01	2	
SE2706	AUDIO CABLE 447Z/447S	10		SMA210/212
QK1104	IDC WIRE CONN 1X04 2,5	03	2	
XS0499	CABLE 3+1-POLE COMM.SHIELD 2.50MM	07	1	
UC0859	FASTENING SPRING PN44473	01	TA 303 304 405	
UC0859	FASTENING SPRING PN44473	01	ICA 104 103	
UC1140	COOLING PLATE PN45154 COPPER	03	TA 303 304 405	
UC1140	COOLING PLATE PN45154 COPPER	03	ICA 104 103	

Part Number	Description	PG	Item Number	
UC6551	FASTENING SPRING	03	ICA 203	
UC6551	FASTENING SPRING	03	DA 411	
UC6551	FASTENING SPRING	03	TA 102	
UC6552	FASTENING SPRING	03	TA 407	
UC6752	WASHER 447E	01		
UC6859	J__HDYTYSLEVY/COOLING PLATE 447S	09	TA 407	
UC6859	J__HDYTYSLEVY/COOLING PLATE 447S	09	DA 411	
UC6859	J__HDYTYSLEVY/COOLING PLATE 447S	09	ICA 402	
UC6862	KIINNITYSJOUSI/FAST.SPRING 447S	02	ICA 402	
UC6863	LIITINPANEELI/CONNECT PANEL	09		SMA203/210
UC6864	TUKI/SUPPORT 447S	04		
UC6865	ETUTUKI/FRONT SUPPORT 447S	04		
UC6886	H_IRITSUOJA/INTERF.SHIELD 447S	02		
UC6907	LIITINPANEELI USB/CONN.PANEL 447Z	09		SMA211/212
UCX012	DIODI/J__HDL.KOK.PANO JF0166	05	DA 114	
JF0166	DIODE BYM26C 600V 2.3A SOD-64	04		
UCX015	DIODI/J__HDL.KOK.PANO JF0168	05	DA 120	
JF0168	DIODE BYW98-200 200V 3A DO-27A !	04		
UCX016	UC6860+UC6861+UG1001+WC0450	05	TA 102	
UCX016	UC6860+UC6861+UG1001+WC0450	05	ICA 203	
UC6860	J__HDYTYSLEVY/COOLING PLATE 447S	09		
UC6861	J__HDYTYSLEVY/COOLING PLATE 447S	09		
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	01		
UG1016	LOCK UP INSULATOR PN40421	01		
UJ0217	JOHTOSIDOKE/EDGE HOLD.WIRE EHWSE	03		
UG0699	SUPPORT GRID TUKIRISTIKKO PN10121	10		
UG0770	JOHTOPIDIKE SIS. MITAT 11X20MM	02		
UG0812	INSULATOR PN30068 445R	04		
UG0814	INSULATOR PN30084 447K	06		
UG1002	TUKI/MINI SUPPORT POST MSPM-6-01	03		SMA211/212
WA0749	M4X8 DIN962 DIN269 8.8	01		
WL0217	WASHER 4,3 ST DIN6798A	01		
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	TA 407 405 304 303	
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	ICA 402 203 104 103	
XW0032	L_MP.JOHT.RASVA DOW CORNING	32	DA 411	
WC0036	KUUS.KAN.LEVYR.UNI6950 SCREW	01		
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	01	32	
WC0446	KUUS.KANT.-TYLPP_ 2,9X8 FE/ZN	01		
WC0353	PT-SCR KB 40X10 WN1447 FE/ZN YELL	01	MA 301	



SMA211
SMA212
USB
Q103 3 2 1
Q102
DEMA
R102 4M7
R103 4M7
15V
RE101
D111 LL4148
T107 BS170
D112 LL4148
R135 464
DEMA
R136 4M7
C127 1u 50V
VALUE
PTC1
PTC2
RE101
C101 4n7
C102 220n
C103 4n7
Q101
L
N
W101
F101 T4.0A
M101 FJ0800
R101 1M
M102 FJ1481
C104 100n
NTC1
D101 GP30M
D102 GP30M
D103 GP30M
D104 GP30M
C105 3n3
C107 3n3
C106 3n3
C108 330u 385V
C154 2n2
C155 2n2
R104 470k
R105 470k
POWER1
R106 470k
R107 470k
POWER2
D126 LL4148
SMA211
SMA212
T115 IRF820
R174 100k
T116 MPSA44
R175 56k
R176 56k
D127 LL4148
C128 10n
D113 RGP15J
R138 154
R137 383k
D114 BYM26C
C129 47u 250V
C130 47u 250V
170V
M103 FM3503
L102 FJ0505
C131 100u 100V
C157 22u 100V
64V
R110 4M7
R111 3M3
R173 220k
R172 100k
R108 22k
T101 BC847
T102 SSP6N60
C111 22n 630V
R109 39k 4W
C110 22n 630V
D105 UF4007
D129 UF4007
R178 470
C156 270
C113 10n
T105 BC857
C114 10n
R114 10k
R116 22
D109 LL4148
C115 10n
R115 6k8
R117 2k2
C116 2n2
R118 1k5
R119 0R56
R120 0R56
R121 1R5
D106 UF2D
C117 47u 100V
R122 4k64
T103 BC638
T104 2N5551
D107 1N4148
DZ101 8V2
R123 4k7
D115 UF5404
D116 UF5404
T108 BF423
C132 22n
C133 100u 25V
R139 1k0
R140 1k0
C134 270
R141 1R00
R142 1R54
R143 464
R144 1k00
R145 121k
BAV21 D117
R147 10k
R146 100
T109 IRF820
IC102 7805
STBY_5V
C140 4n7
DZ102 12V
D119 1N4007
C141 100u
C142 100u
R148 0R22
D118 BYW98-200
L103 FJ0505
-13V
R149 46R4
C135 1n0
C136 1000u 16V
15V
F102 3.15A
L104 FJ0448
D120 BYW98-200
R150 46R4
C137 470
C138 2200u 35V
C139 4u7 50V
IC103 SI-3120F
Vc
on/off
12V
L107 FJ0505
B_12V (3.4)
C143 47u 35V
R156 47k
STBY_5V
SUSPEND (1.5)
R151 0R22
D121 BYV27-200
10V
R152 46R4
C144 1n0
C145 1000u 16V
SMA210
SMA212
7V
IC104 LM2940CT
5V
C146 100n
C147 10u 35V
C148 47u 16V
D122 UF2D
D123 UF2D
F103 3.15A
C149 2n2
R153 220
R154 220
C150 2200u 16V
L105 FJ0448
R133 33k
T106 BC857
R134 330
IC101 L4990
SYNC
RCT
DC
VREF
VFB
COMP
SS
VCC
DC-LIM
DIS
ISEN
SGND
PGND
OUT
VC
C118 100
C119 4n7
R129 22k
R128 39k
C125 4n7
R130 22k
C126 1u
R132 22k
R131 1k0
D110 LL4148
R127 10k
C124 10n
R124 1k0
C120 1n0
C121 330
C123 10u 35V
C122 100n
D108 BAV21
R125 100
R126 8k2
D128 BAV103
L101 FJ0517
IC106 SFH618
IC107 SFH618
STBY_5V
R169 2k2
R167 470
T113 BC857
R168 470
R166 2k2
R164 10k0
R165 2k2
T114 BC857
IC105 TL431
C151 100n
C152 2n2
R161 1k8
R162 1k0
D125 1N4148
POWER_OFF (5)
R171 1k0
D124 LL4148
C153 1n0
H_FLY (5)
STBY_5V
R158 10k
R160 10k
T111 BC847
R177 10k
T110 BC847
UVLO (2.4)
AUDIO_MUTE (6)
SUSPEND (1.5)
R157 470k
R159 33k
T112 BC857
STBY_5V
R163 47k
RT101 10k
STBY_5V

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB. Safety components marked with ⚠ must be replaced with original or approved components only.

All printed boards and the back cover are also safety components

POWER SUPPLY

56011C

ECN

ECNNO

SMA C

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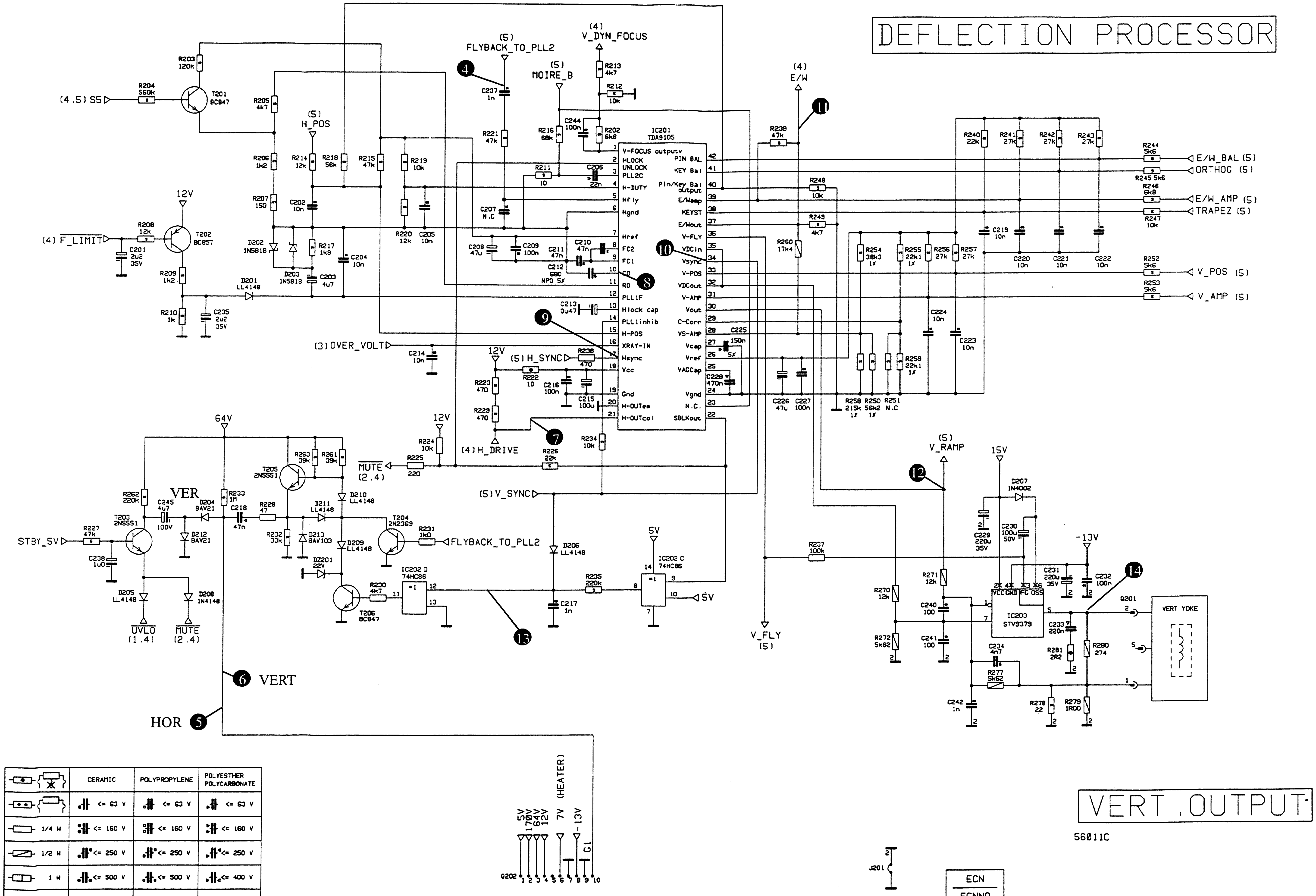
DEFLECTION PROCESSOR



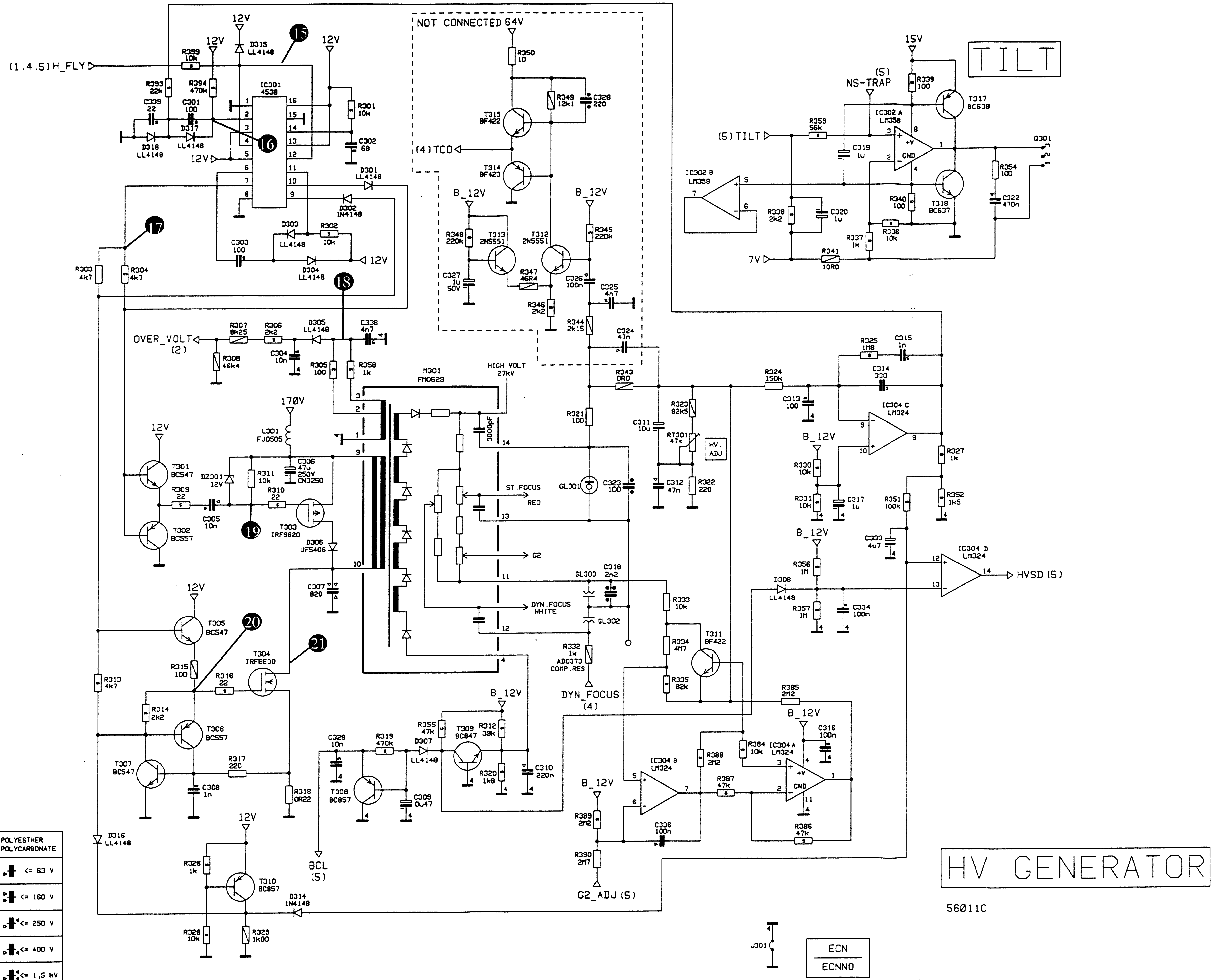
(4.5) SS
R204 560k
R203 120k
T201 BC847
R205 4k7
R206 1k2
R207 150
(5) H_POS
R214 12k
R218 56k
R215 47k
R219 10k
C202 10n
R217 1k8
C203 4u7
C204 10n
D202 1N5818
D203 1N5818
R220 12k
C205 10n
12V
T202 BC857
(4) F_LIMIT
R208 12k
C201 2u2 35V
R209 1k2
R210 1k
C235 2u2 35V
D201 LL4148
(5) FLYBACK_TO_PLL2
C237 1n
R221 47k
C207 N.C
(5) MOIRE_B
R216 68k
C244 100n
(4) V_DYN_FOCUS
R213 4k7
R212 10k
R202 6k8
R211 10
C206 22n
C208 47u
C209 100n
C211 47n
C210 47n
C212 680 NPO 5%
C213 0u47
IC201 TDA9105
1 V-FOCUS outputv
2 HLOCK UNLOCK
3 PLL2C
4 H-DUTY
5 HFly
6 Hgnd
7 Href
8 FC2
9 FC1
10 C0
11 R0
12 PLL1F
13 Hlock cap
14 PLL1inhib
15 H-POS
16 XRAY-IN
17 Hsync
18 Vcc
19 Gnd
20 H-OUTem
21 H-OUTcol
42 PIN BAL
41 KEY Bal
40 Pin/Key Bal output
39 E/Wamp
38 KEYST
37 E/Wout
36 V-FLY
35 VDCin
34 Vsync
33 V-POS
32 VDCout
31 V-AMP
30 Vout
29 C-Corr
28 VS-AMP
27 Vcap
26 Vref
25 VACCap
24 Vgnd
23 N.C.
22 SBLKout
(3) OVER_VOLT
C214 10n
12V
(5) H_SYNC
R236 470
R222 10
C216 100n
C215 100u
R223 470
R229 470
(4) H_DRIVE
12V
R224 10k
R226 22k
R234 10k
MUTE (2.4)
R225 220
(4) E/W
R239 47k
R248 10k
R249 4k7
R260 17k4
C225 150n 5%
C228 470n
C226 47u
C227 100n
R258 215k 1%
R250 56k2 1%
R251 N.C
R254 38k3 1%
R255 22k1 1%
R256 27k
R257 27k
R259 22k1 1%
C224 10n
C223 10n
R240 22k
R241 27k
R242 27k
R243 27k
C219 10n
C220 10n
C221 10n
C222 10n
R244 5k6
E/W_BAL (5)
R245 5k6
ORTHOC (5)
R246 6k8
E/W_AMP (5)
R247 10k
TRAPEZ (5)
R252 5k6
V_POS (5)
R253 5k6
V_AMP (5)
64V
R262 220k
C245 4u7 100V
VER
D204 BAV21
R233 1M
C218 47n
R228 47
T205 2N5551
R263 39k
R261 39k
D210 LL4148
D211 LL4148
T204 2N2369
R231 1k0
FLYBACK_TO_PLL2
STBY_5V
R227 47k
C238 1u0
T203 2N5551
D212 BAV21
R232 33k
D213 BAV103
D209 LL4148
DZ201 22V
D205 LL4148
D208 1N4148
UVLO (1.4)
MUTE (2.4)
T206 BC847
R230 4k7
IC202 D 74HC86
(5) V_SYNC
D206 LL4148
C217 1n
R235 220k
5V
IC202 C 74HC86
5V
V_FLY (5)
(5) V_RAMP
15V
D207 1N4002
C229 220u 35V
C230 100u 50V
-13V
C231 220u 35V
C232 100n
R237 100k
R271 12k
R270 12k
C240 100
C241 100
R272 5k62
IC203 STV9379
VCC GND FG OSS
C233 220n
C234 4n7
R277 5k62
C242 1n
R281 2R2
R280 274
R278 22
R279 1R00
Q201
VERT YOKE
6 VERT
HOR 5
5V 170V 64V 12V 7V (HEATER) -13V
C1
Q202
1 2 3 4 5 6 7 8 9 10
J201
4
7
8
9
10
11
12
13
14

VERT.OUTPUT

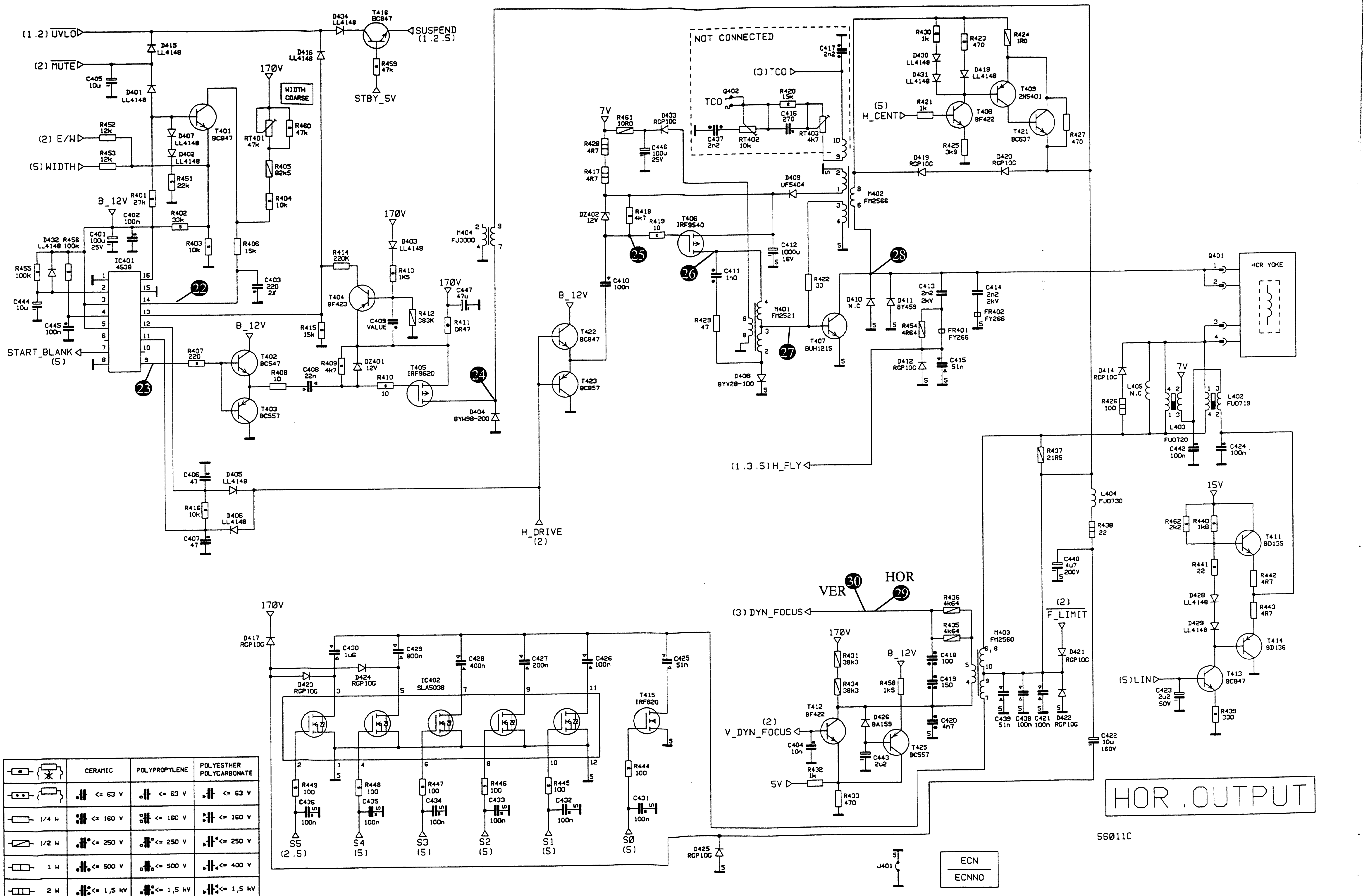
56011C

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

ECN
ECNNO


(1.4.5) H_FLY
12V
D315 LL4148
12V
R399 10k
R393 22k
R394 470k
C339 22
C301 100
D318 LL4148
D317 LL4148
12V
IC301 4538
15
16
12V
R301 10k
C302 68
D301 LL4148
D302 1N4148
D303 LL4148
R302 10k
C303 100
D304 LL4148
12V
17
R303 4k7
R304 4k7
18
OVER_VOLT (2)
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 46k4
C304 10n
R305 100
R358 1k
M301 FM0629
HIGH VOLT 27kV
3000pF
170V
L301 FJ0505
C306 47u 250V CN0250
12V
T301 BC547
R309 22
C305 10n
DZ301 12V
R311 10k
R310 22
19
T303 IRF9620
D306 UFS406
C307 820
T302 BC557
ST.FOCUS RED
G2
DYN.FOCUS WHITE
12V
T305 BC547
20
T304 IRFBE30
21
R315 100
R316 22
R313 4k7
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
D316 LL4148
12V
R326 1k
T310 BC857
D314 1N4148
R328 10k
R329 1k00
C329 10n
R319 470k
D307 LL4148
R355 47k
T309 BC847
R312 39k
B_12V
R320 1k8
C310 220n
T308 BC857
C309 0u47
BCL (5)
NOT CONNECTED 64V
R350 10
R349 12k1
C328 220
T315 BF422
(4) TCO
T314 BF423
B_12V
R348 220k
T313 2N5551
T312 2N5551
B_12V
R345 220k
C327 1u 50V
R347 46R4
C326 100n
C325 4n7
R346 2k2
R344 2k15
C324 47n
R343 0R0
R321 100
C311 10u
R323 82k5
RT301 47k
HV. ADJ
GL301
C323 100
C312 47n
R322 220
GL303
C318 2n2
GL302
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
R333 10k
R334 4M7
T311 BF422
R335 82k
R385 2M2
B_12V
C316 100n
R388 2M2
R384 10k
IC304 A LM324
IC304 B LM324
R387 47k
B_12V
R389 2M2
C336 100n
R390 2M7
G2_ADJ (5)
R386 47k
R324 150k
R325 1M8
C315 1n
C314 330
C313 100
IC304 C LM324
B_12V
R330 10k
R331 10k
C317 1u
R327 1k
R351 100k
R352 1k5
B_12V
C333 4u7
R356 1M
D308 LL4148
R357 1M
C334 100n
IC304 D LM324
HVSD (5)
TILT
15V
(5) NS-TRAP
R339 100
T317 BC638
IC302 A LM358
R359 56k
(5) TILT
C319 1u
Q301
R354 100
IC302 B LM358
R338 2k2
C320 1u
R340 100
T318 BC637
C322 470n
R337 1k
R336 10k
7V
R341 10R0
HV GENERATOR
56011C
J301
ECN
ECNNO

		CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
		<= 63 V	<= 63 V	<= 63 V
	1/4 W	<= 160 V	<= 160 V	<= 160 V
	1/2 W	<= 250 V	<= 250 V	<= 250 V
	1 W	<= 500 V	<= 500 V	<= 400 V
	2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV


(1.2) UVLO
(2) MUTE
(2) E/W
(5) WIDTH
START_BLANK (5)
B_12V
170V
SUSPEND (1.2.5)
STBY_5V
WIDTH COARSE
D434 LL4148
T416 BC847
R459 47k
D415 LL4148
D416 LL4148
C405 10u
D401 LL4148
R452 12k
R453 12k
T401 BC847
D407 LL4148
D402 LL4148
R451 22k
RT401 47k
R460 47k
R405 82k5
R404 10k
R401 27k
C402 100n
R402 33k
R403 10k
R406 15k
C401 100u 25V
D432 LL4148
R456 100k
R455 100k
IC401 4538
C444 10u
C445 100n
C403 220 2%
R414 220K
T404 BF423
D403 LL4148
R413 1K5
C409 VALUE
R412 383K
R415 15k
C447 47u
R411 0R47
R407 220
T402 BC547
T403 BC557
R408 10
C408 22n
R409 4k7
DZ401 12V
R410 10
T405 IRF9620
D404 BYW98-200
M404 FJ3000
C406 47
D405 LL4148
R416 10k
D406 LL4148
C407 47
H_DRIVE (2)
7V
R461 10R0
D433 RGP10C
C446 100u 25V
R428 4R7
R417 4R7
DZ402 12V
R418 4k7
R419 10
T406 IRF9540
C410 100n
T422 BC847
T423 BC857
C411 1n0
R429 47
M401 FM2521
D408 BYV28-100
C412 1000u 16V
D409 UF5404
NOT CONNECTED
(3) TCO
TCO
Q402
R420 15k
C416 270
C437 2n2
RT402 10k
RT403 4k7
C417 2n2
M402 FM2566
R422 33
T407 BUH1215
D410 N.C
D411 BY459
C413 2n2 2kV
R454 4R64
FR401 FY266
D412 RGP10C
C415 51n
C414 2n2 2kV
FR402 FY266
(1.3.5) H_FLY
R430 1k
R423 470
R424 1R0
D430 LL4148
D431 LL4148
D418 LL4148
T409 2N5401
(5) H_CENT
R421 1k
T408 BF422
R425 3k9
T421 BC637
R427 470
D419 RGP10C
D420 RGP10C
Q401
HOR YOKE
D414 RGP10C
R426 100
L405 N.C
L403 FU0720
L402 FU0719
C442 100n
C424 100n
R437 21R5
L404 FJ0730
R438 22
C440 4u7 200V
(2) F_LIMIT
15V
R462 2k2
R440 1k8
T411 BD135
R441 22
R442 4R7
D428 LL4148
R443 4R7
D429 LL4148
T414 BD136
(5) LIN
C423 2u2 50V
T413 BC847
R439 330
C422 10u 160V
VER
HOR
(3) DYN_FOCUS
R436 4k64
R435 4k64
M403 FM2560
C418 100
C419 150
C420 4n7
D421 RGP10C
D422 RGP10C
C439 51n
C438 100n
C421 100n
170V
R431 38k3
R434 38k3
B_12V
R458 1k5
T412 BF422
D426 BA159
T425 BC557
C443 2u2
(2) V_DYN_FOCUS
C404 10n
R432 1k
5V
R433 470
D417 RGP10C
D423 RGP10C
C430 1u6
D424 RGP10C
C429 800n
IC402 SLA5038
C428 400n
C427 200n
C426 100n
C425 51n
T415 IRF620
R449 100
R448 100
R447 100
R446 100
R445 100
R444 100
C436 100n
C435 100n
C434 100n
C433 100n
C432 100n
C431 100n
S5 (2.5)
S4 (5)
S3 (5)
S2 (5)
S1 (5)
S0 (5)
D425 RGP10C
J401
22
23
24
25
26
27
28
29
30

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

HOR.OUTPUT

56011C

ECN

ECNNO

SMAC

1

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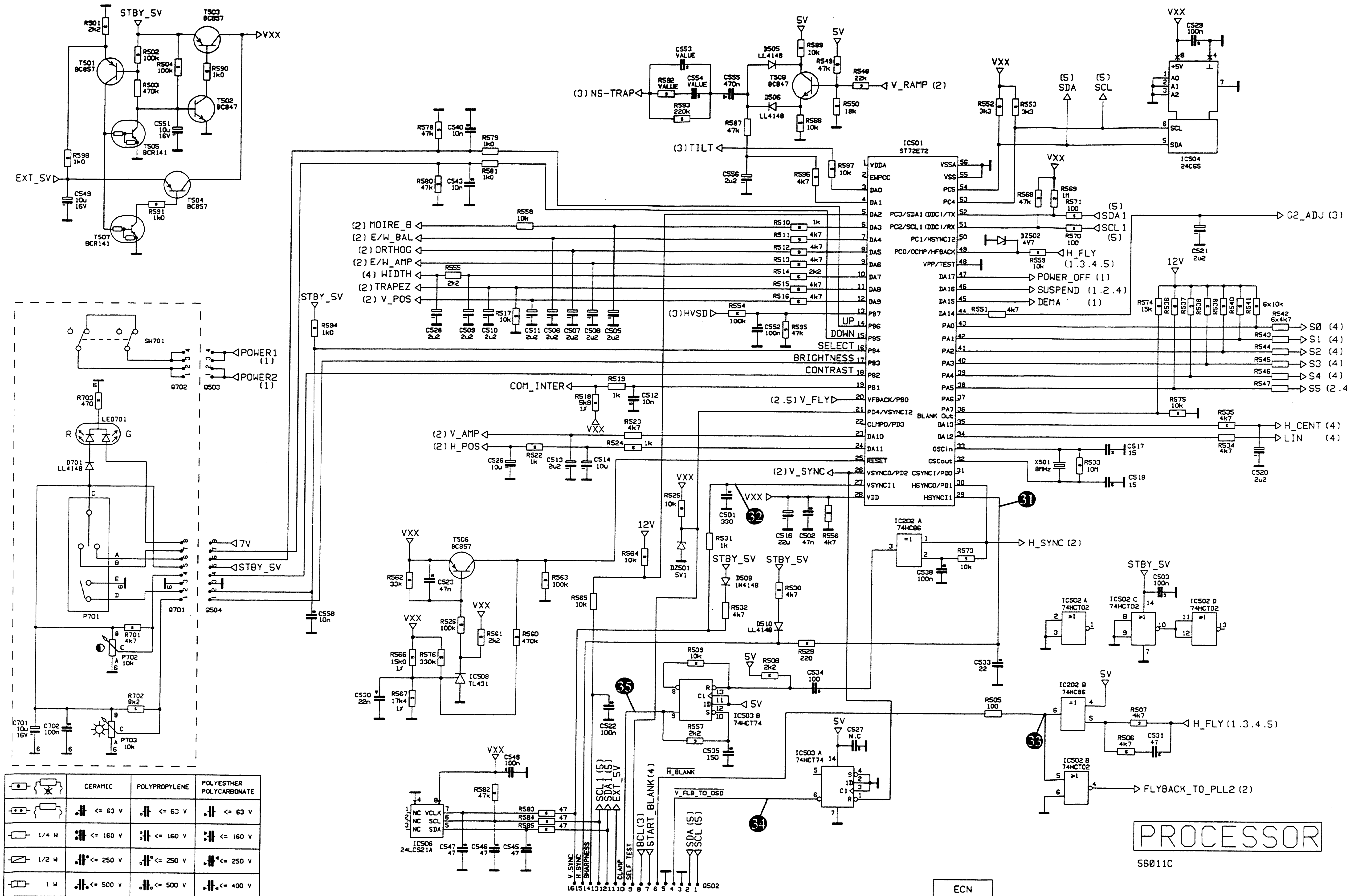
STBY_5V
VXX
EXT_5V
5V
12V
7V
T501 BC857
T502 BC847
T503 BC857
T504 BC857
T505 BCR141
T506 BC857
T507 BCR141
T508 BC847
IC501 ST72E72
IC502 A 74HCT02
IC502 B 74HCT02
IC502 C 74HCT02
IC502 D 74HCT02
IC202 A 74HC86
IC202 B 74HC86
IC503 A 74HCT74
IC503 B 74HCT74
IC504 24C65
IC506 24LCS21A
IC508 TL431
XS01 8MHz
DZ501 5V1
DZ502 4V7
D505 LL4148
D506 LL4148
D508 1N4148
D510 LL4148
D701 LL4148
LED701
SW701
P701
P702 10k
P703 10k
Q502
Q503
Q504
Q701
Q702
(3) NS-TRAP
(3) TILT
(3) HVSD
V_RAMP (2)
(5) SDA
(5) SCL
(2) MOIRE_B
(2) E/W_BAL
(2) ORTHOG
(2) E/W_AMP
(4) WIDTH
(2) TRAPEZ
(2) V_POS
UP
DOWN
SELECT
BRIGHTNESS
CONTRAST
COM_INTER
(2.5) V_FLY
(2) V_AMP
(2) H_POS
(2) V_SYNC
SDA1 (5)
SCL1 (5)
H_FLY (1.3.4.5)
POWER_OFF (1)
SUSPEND (1.2.4)
DEMA (1)
G2_ADJ (3)
S0 (4)
S1 (4)
S2 (4)
S3 (4)
S4 (4)
S5 (2.4)
H_CENT (4)
LIN (4)
H_SYNC (2)
H_FLY (1.3.4.5)
FLYBACK_TO_PLL2 (2)
POWER1 (1)
POWER2 (1)
H_BLANK
V_FLB_TO_OSD
SCL1 (5)
SDA1 (5)
EXT_5V
V_SYNC
H_SYNC
SHARPNESS
CLAMP
SELF TEST
BCL (3)
START_BLANK (4)
SDA (5)
SCL (5)
31
32
33
34
35

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

PROCESSOR

56011C

ECN

ECNNO

447G

SMA C

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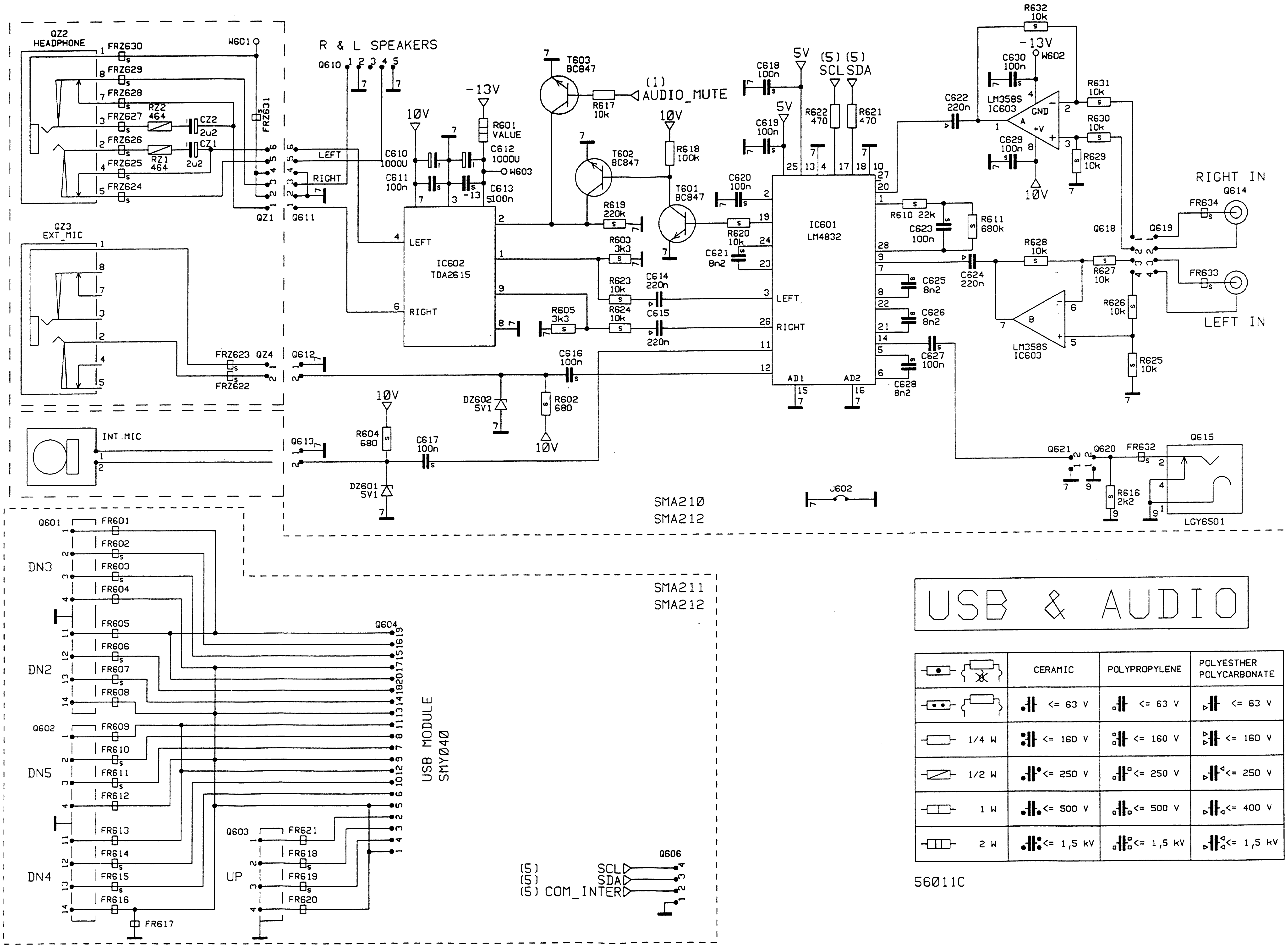
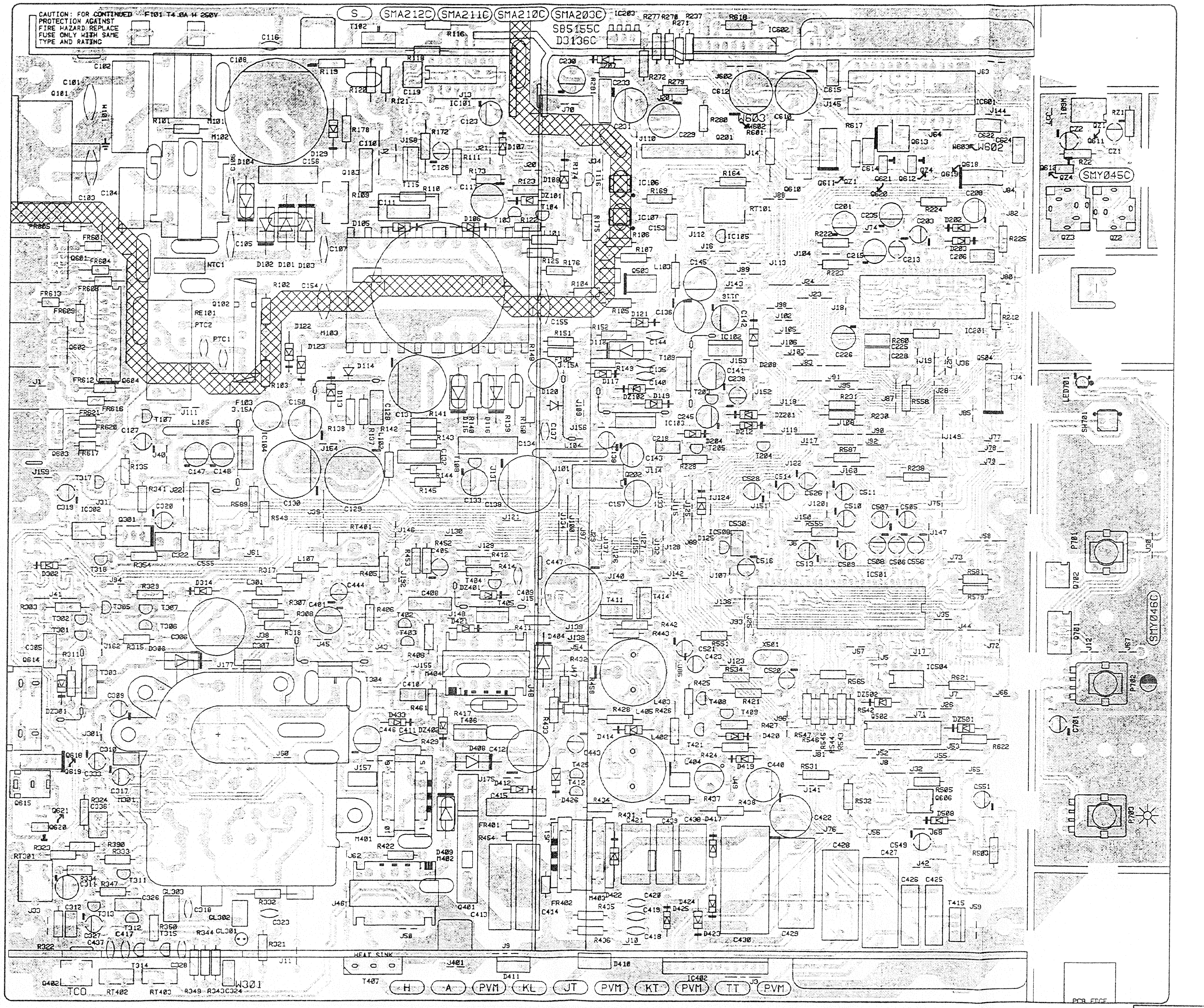
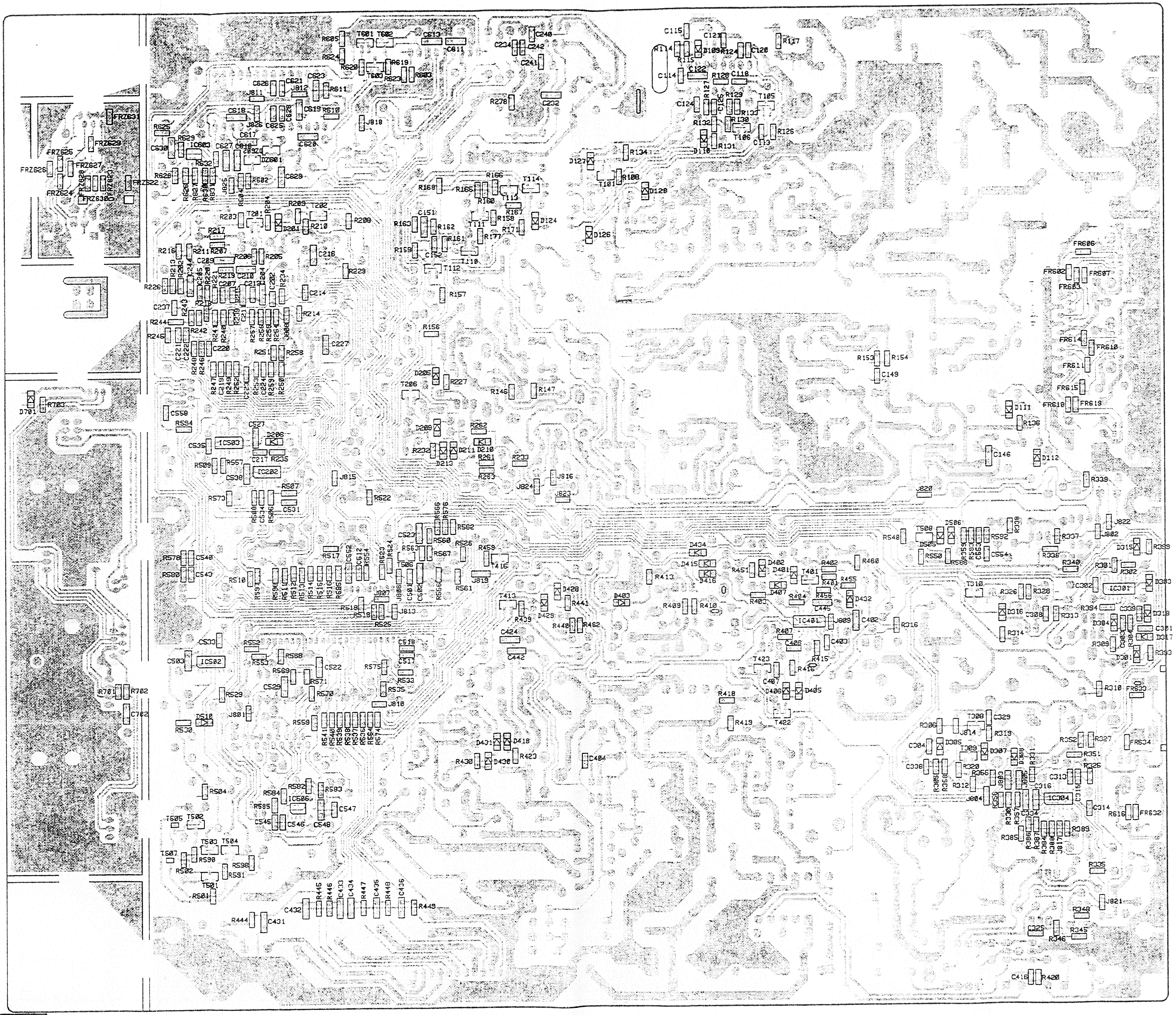

QZ2
HEADPHONE
FRZ630
FRZ629
FRZ628
FRZ627
FRZ626
FRZ625
FRZ624
FRZ631
W601
RZ2 464
RZ1 464
CZ2 2u2
CZ1 2u2
QZ1
QZ3
EXT_MIC
FRZ623
FRZ622
QZ4
INT.MIC
R & L SPEAKERS
Q610
LEFT
RIGHT
Q611
Q612
Q613
C610 1000U
C611 100n
C612 1000U
C613 100n
R601 VALUE
-13V
10V
W603
IC602
TDA2615
LEFT
RIGHT
T603 BC847
T602 BC847
T601 BC847
R617 10k
(1) AUDIO_MUTE
R618 100k
R619 220k
R603 3k3
R605 3k3
R623 10k
R624 10k
C614 220n
C615 220n
C616 100n
R602 680
DZ602 5V1
R604 680
C617 100n
DZ601 5V1
C618 100n
C619 100n
C620 100n
C621 8n2
R620 10k
5V
(5) SCL
(5) SDA
R622 470
R621 470
IC601
LM4832
LEFT
RIGHT
AD1
AD2
R610 22k
C623 100n
R611 680k
C625 8n2
C626 8n2
C627 100n
C628 8n2
C622 220n
C624 220n
R632 10k
C630 100n
W602
LM358S
IC603
GND
C629 100n
R631 10k
R630 10k
R629 10k
R628 10k
R627 10k
R626 10k
R625 10k
RIGHT IN
Q614
FR634
Q618
Q619
FR633
LEFT IN
Q621
Q620
FR632
Q615
R616 2k2
LGY6501
J602
SMA210
SMA212
Q601
FR601
FR602
FR603
FR604
FR605
FR606
FR607
FR608
DN3
DN2
Q602
FR609
FR610
FR611
FR612
FR613
FR614
FR615
FR616
FR617
DN5
DN4
Q603
FR621
FR618
FR619
FR620
UP
Q604
USB MODULE
SMY040
SMA211
SMA212
Q606
(5) SCL
(5) SDA
(5) COM_INTER

USB & AUDIO

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

56011C


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
F101 T4.0A H 250V
S
SMA212C
SMA211C
SMA210C
SMA203C
SB5155C
D3136C
SMY045C
SMY046C
HEAT SINK
TCO
W301
H
A
PVM
KL
JT
PVM
KT
PVM
TT
PVM
PCB EDGE


C115
C121
R117
R114
D109
R124
C120
C114
C122
R128
C118
R134
D127
R108
T101
D128
D126
R166
T114
R168
R165
R160
T113
C151
R167
D124
R163
R162
T111
R158
R171
R177
R159
R161
T110
C152
T112
R157
R156
C240
C234
C242
C241
R278
C232
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J811
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J826
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IC603
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DZ601
FRZ631
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FRZ621
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C149
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C146
D112
D205
R227
T206
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R147
D701
R703
C550
R584
C527
D208
R262
C535
IC503
D206
R232
D210
C217
R235
D213
D211
R509
R557
R261
R233
C538
IC202
R263
J815
J824
J816
R507
J823
R573
C531
R522
J820
R339
T508
D506
R338
J822
R548
D505
R592
R337
J802
D315
R550
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C554
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C523
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D434
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D415
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C540
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D416
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D401
T401
R455
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C543
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J819
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C302
IC301
D303
J807
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T413
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D432
R394
C309
D319
R518
J813
R409
R410
C445
D316
C308
R313
C301
R519
R525
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D429
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IC401
J809
C402
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D304
D317
C424
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C426
C403
R314
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C503
IC502
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R568
C518
C442
T423
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D301
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C522
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C407
R569
R571
R535
D406
D405
R310
FR605
R701
R702
C529
R529
R570
J810
R418
C702
D510
J801
R559
R419
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T300
C329
R530
J814
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R352
R327
FR604
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C304
D305
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D430
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C404
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R365
C313
R504
R584
R582
R583
R312
J804
C316
IC304
C314
R616
FR632
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IC506
C547
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T501
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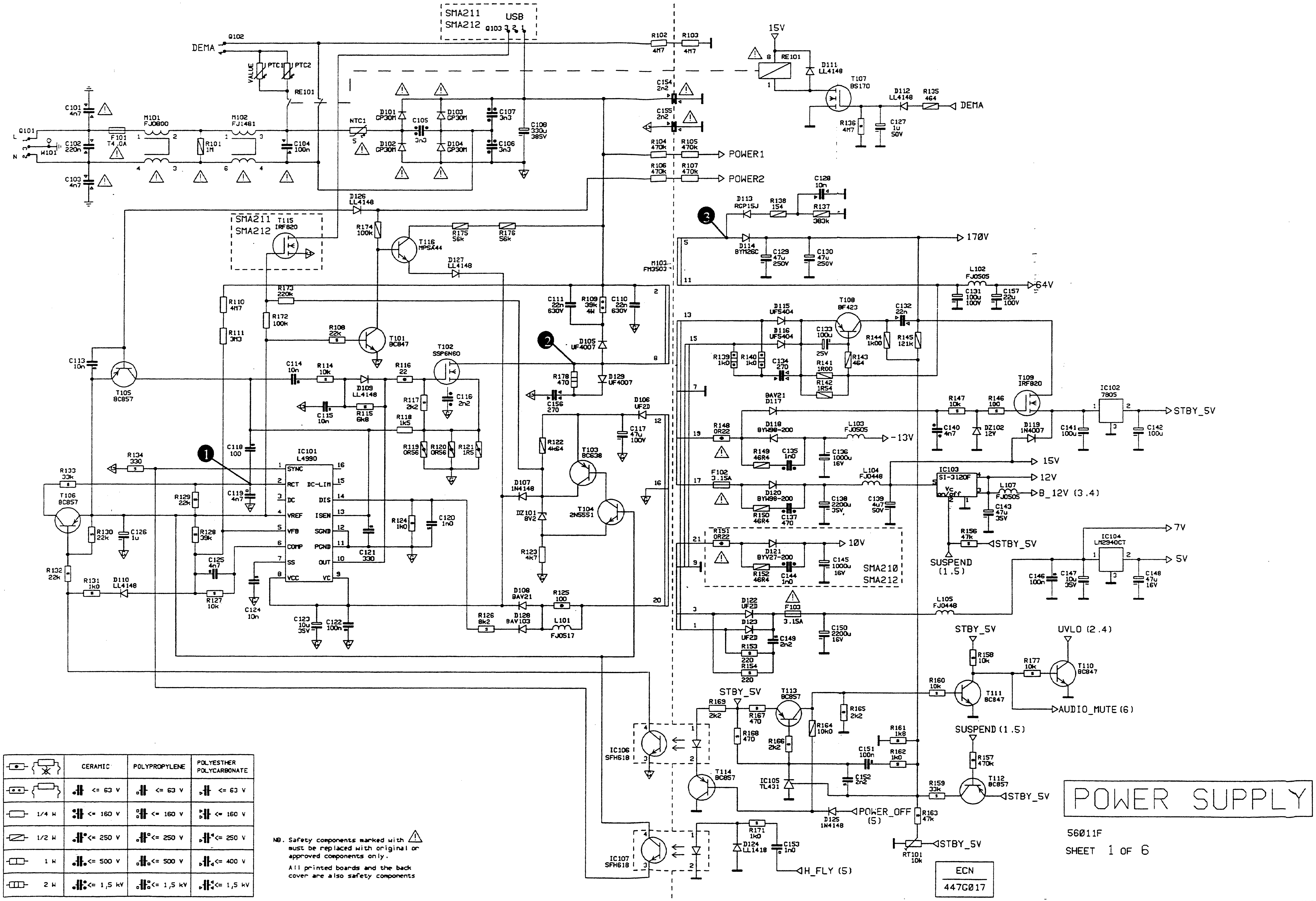
R448
C436
C433
C435
R449
R335
J821
R444
C431
C432
R348
R345
C325
R346
C416
R420

Part Number	Description	PG		Item Number	
AA0665	CF RES 0W25 470R J 2,5–7	01	RA	427 238 223	
AA0761	CF RES 0W25 4M7 J 2,5–7	01	RA	102 103 334	
AA0673	CF RES 0W25 1K0 J 2,5–7	01	RA	421 231 531 586 579 581	
AA0677	CF RES 0W25 1K5 J 2,5–7	01	RA	118 433 458	
AA0679	CF RES 0W25 1K8 J 2,5–7	01	RA	432	
AA0681	CF RES 0W25 2K2 J 2,5–7	01	RA	555 169	
AA0681	CF RES 0W25 2K2 J 2,5–7	01	RA	604	SMA210/212
AA0687	CF RES 0W25 3K9 J 2,5–7	01	RA	425	
AA0689	CF RES 0W25 4K7 J 2,5–7	01	RA	123 303 532 534 542 543 544 545 546	
AA0689	CF RES 0W25 4K7 J 2,5–7	01	RA	547 551 230	
AA0697	CF RES 0W25 10K J 2,5–7	01	RA	224 311 333 164 565 558 212 589	
AA0699	CF RES 0W25 12K J 2,5–7	01	RA	453 452	
AA0701	CF RES 0W25 15K J 2,5–7	01	RA	406	
AA0705	CF RES 0W25 22K J 2,5–7	01	RA	549	
AA0715	CF RES 0W25 56K J 2,5–7	01	RA	175 176	
AA0721	CF RES 0W25 100K J 2,5–7	01	RA	172 237 174 618	
AA0725	CF RES 0W25 150K J 2,5–7	01	RA	324	
AA0729	CF RES 0W25 220K J 2,5–7	01	RA	173 414	
AA0737	CF RES 0W25 470K J 2,5–7	01	RA	503	
AA0755	CF RES 0W25 2M7 J 2,5–7	01	RA	390	
AA0757	CF RES 0W25 3M3 J 2,5–7	01	RA	111	
AA0937	CF RES 0W5 470K J 4–11	01	RA	104 105 106 107	
AB0585	NF RES 0W25 0R22 J 2,5–7 CF	01	RA	148 318	
AB0585	NF RES 0W25 0R22 J 2,5–7 CF	01	RA	151	SMA210/212
AB0593	NF RES 0W25 0R47 J 2,5–7 CF	01	RA	411	
AB0609	NF RES 0W25 2R2 J 2,5–7 CF	01	RA	281	
AB0617	NF RES 0W25 4R7 J 2,5–7 CF	01	RA	442 443	
AB0625	NF RES 0W25 10R J 2,5–7 CF	01	RA	222 408 461	
AB0633	NF RES 0W25 22R J 2,5–7 CF	01	RA	116	
AB0649	NF RES 0W25 100R J 2,5–7 CF	01	RA	125	
AB0795	NF RES 0W5 0R56 J 4–11 CF	02	RA	119 120	
AB0801	NF RES 0W5 1R0 J 4–11 CF	02	RA	424	
AB0805	NF RES 0W5 1R5 J 4–11 CF !	01	RA	121	
AC3292	CHIPRES 1K0 0W1 1% 0805	01	RA	273	
AC3366	CHIPRES 5K90 0W1 1% 0805	01	RA	518	
AC3405	CHIPRES 15K0 0W1 1% 0805	01	RA	566	
AC3411	CHIPRES 17K4 0W1 1% 0805	01	RA	567	
AC3421	CHIPRES 22K1 0W1 1% 0805	01	RA	255 259	
AC3444	CHIPRES 38K3 0W1 1% 0805	01	RA	254	
AA0649	CF RES 0W25 100R J 2,5–7	01	RA	321 354 505	
AC3460	CHIPRES 56K2 0W1 1% 0805	01	RA	250	
AC3616	CHIPRES 215K 0W1 1% 0805	01	RA	258	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA	801 802 820 821 822 806 807 808 809 810	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	JA	811 812 813 814 815 816 817 818 823	
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RA	211 410 419	
AC4433	CHIPRES 0W1 22R 5% 0805 2013	01	RA	278 309 310 316 441	
AC4441	CHIPRES 0W1 47R 5% 0805 2013	01	RA	583 584 585	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA	146 305 339 340 444 445 446 447 448 449	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RA	570 571	
AC4453	CHIPRES 0W1 150R 5% 0805 2013	01	RA	207	
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RA	153 154 407 529	
AC4461	CHIPRES 0W1 330R 5% 0805 2013	01	RA	134 439	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	RA	167 168 229 423 703	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA	171 131 162 594 210 326 327 337 430 440	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	RA	590 591 510 519 522 358 524 598 124	
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	01	RA	206 209	
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	01	RA	352 413	
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	01	RA	161 217	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA	117 314 508 514 557 306 165	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA	166 561 501 338	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RA	602 616	SMA210/212
AC4485	CHIPRES 0W1 3K3 5% 0805 2013	01	RA	603 605 552 553 320	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA	701 205 213 249 304 313 409 506 507	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA	511 512 513 515 516 530 535 556	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RA	523 418 596	
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	01	RA	244 245 252 253	
AC4493	CHIPRES 0W1 6K8 5% 0805 2013	01	RA	246 115 202	
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	01	RA	702 126	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA	158 127 147 114 177 509 219 234 247 248	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA	301 302 328 330 331 160 564 617 575 525	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA	403 597 336 517 588 620 416 384 559	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA	399 573 536 537 538 539 540 541	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RA	623 624	SMA210/212
AC4499	CHIPRES 0W1 12K 5% 0805 2013	01	RA	208 214 220	
AC4501	CHIPRES 0W1 15K 5% 0805 2013	01	RA	415 574 404	
AC4503	CHIPRES 0W1 18K 5% 0805 2013	01	RA	550	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA	129 130 226 240 548 393 451 132 108	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RA	610	SMA210/212
AC4507	CHIPRES 0W1 27K 5% 0805 2013	01	RA	241 242 243 256 257 401	
AC4509	CHIPRES 0W1 33K 5% 0805 2013	01	RA	402 562 133 232 159	
AC4511	CHIPRES 0W1 39K 5% 0805 2013	01	RA	128 261 263	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA	578 580 221 239 582 386 387 568 460 227	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA	163 355 215 595 156 459 312	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	RA	612 614	SMA210/212
AC4515	CHIPRES 0W1 56K 5% 0805 2013	01	RA	218 359	
AC4517	CHIPRES 0W1 68K 5% 0805 2013	01	RA	216	
AC4519	CHIPRES 0W1 82K 5% 0805 2013	01	RA	335	
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	RA	504 502 526 351 563 455 456 554	
AC4523	CHIPRES 0W1 120K 5% 0805 2013	01	RA	203	
AC4529	CHIPRES 0W1 220K 5% 0805 2013	01	RA	262 593 235 619	
AC4533	CHIPRES 0W1 330K 5% 0805 2013	01	RA	576	
AA0637	CF RES 0W25 33R J 2,5–7	01	RA	422	
AC4541	CHIPRES 0W1 680K 5% 0805 2013	01	RA	611	SMA210/212
AC4537	CHIPRES 0W1 470K 5% 0805 2013	01	RA	157 319 394 580	
AC4539	CHIPRES 0W1 560K 5% 0805 2013	01	RA	204	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RA	233 356 357	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RA	569	
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	01	RA	325	
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	01	RA	385 388 389	
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	01	RA	136	
AC4569	CHIPRES 0W1 10M 5% 0805 2013	01	RA	533	
AC8799	CHIPRES 0W12 0R0 JUMPER 1206	01	JA	803 804 805 819	
AD0373	COMPRES 0W5 1K0 K 4–11	01	RA	332	
AD0445	COMPRES 0W5 1M0 K 4–11	01	RA	101	
AG3101	MF RES 0W5 1R00 F TC200 2,5–7	01	RA	279 141	
AG3119	MF RES 0W5 1R54 F TC200 2,5–7	01	RA	142	
AG3165	MF RES 0W5 4R64 F TC200 2,5–7	01	RA	454	
AG3201	MF RES 0W5 10R0 F TC50 2,5–7	01	RA	341	
AG3233	MF RES 0W5 21R5 F TC50 2,5–7	01	RA	437	
AG3265	MF RES 0W5 46R4 F TC50 2,5–7	01	RA	150 149 429 228	
AG3265	MF RES 0W5 46R4 F TC50 2,5–7	01	RA	152	SMA210/212
AG3301	MF RES 0W5 100R F TC50 2,5–7	01	RA	315	
AG3319	MF RES 0W5 154R F TC50 2,5–7	01	RA	138	
AG3343	MF RES 0W5 274R F TC50 2,5–7	01	RA	280	
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RA	143 135	
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RA	621 622	SMA210/212
AG3365	MF RES 0W5 464R F TC50 2,5–7	01	RZ	1 2	SMA210/212
AG3401	MF RES 0W5 1K00 F TC50 2,5–7	01	RA	329 144	
AG3465	MF RES 0W5 4K64 F TC50 2,5–7	01	RA	435 436 122	
AG3473	MF RES 0W5 5K62 F TC50 2,5–7	01	RA	272 277	
AG3489	MF RES 0W5 8K25 F TC50 2,5–7	01	RA	307	
AG3501	MF RES 0W5 10K0 F TC50 2,5–7	01	RA	613 615	SMA210/212
AG3509	MF RES 0W5 12K1 F TC50 2,5–7	03	RA	270 271	
AG3525	MF RES 0W5 17K8 F TC50 2,5–7	01	RA	260	
AG3557	MF RES 0W5 38K3 F TC50 2,5–7	01	RA	431 434	
AG3565	MF RES 0W5 46K4 F TC50 2,5–7	01	RA	308 587	
AG3589	MF RES 0W5 82K5 F TC50 2,5–7	01	RA	323 405	
AG3609	MF RES 0W5 121K F TC50 2,5–7	01	RA	145	
AG3657	MF RES 0W5 383K F TC50 2,5–7	01	RA	137 412	
AG3765	MF RES 0W5 4M64 F TC50 2,5–7	01	RA	110	
AJ2323	MO RES 2W0 1R5 J 6–17	01	RA	601	SMA210/212
AJ2443	MO RES 2W0 4R7 J 6–17	01	RA	417 428	
AJ2603	MO RES 2W0 22R J 6–17	02	RA	438	
AJ2763	MO RES 2W0 100R J 6–17	02	RA	426	
AJ2923	MO RES 2W0 470R J 6–17	02	RA	178	
AJ3003	MO RES 2W0 1K0 J 6–17	02	RA	139 140	
AJ3385	MO RES 4W0 39K J 9–22	02	RA	109	
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PA	703 702	
AQ2219	TPMET.AA H10 47K RM 5X10 6–HOLE	03	RTA	301 401	
AQ2347	TPMET. H10 10K RM 5X10 6–HOLE	04	RTA	101	
AW0079	PTC–THERMISTOR 18R/25'C RM5	07	PTCA	1 2	
AW0111	NTC–THERMISTOR 5R0/25'C RM5+2,5	07	NTCA	1	
CA0322	CERCAP Y5P 2N2 K 1KV Y5: D10	02	CA	318	
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	02	CA	323	
CB3059	CHIPCAP NP0 220P G 50V 0805	02	CA	403	
CB3129	CHIPCERCAP NP0 15P 50V J 0805	03	CA	517 518	
CB3133	CHIPCERCAP NP0 22P 50V J 0805	01	CA	339 533	
CB3141	CHIPCERCAP NP0 47P 50V J 0805	01	CA	545 531 546 406 547 407	
CB3145	CHIPCERCAP NP0 68P 50V J 0805	01	CA	302	
CB3151	CHIPCERCAP NP0 100P 50V J 0805	01	CA	118 301 303 313 534 240 241	
CB3155	CHIPCERCAP NP0 150P 50V J 0805	01	CA	535	
CB3163	CHIPCERCAP NP0 330P 50V J 0805	01	CA	121 314 501	
CB3171	CHIPCERCAP NP0 680P 50V J 0805	03	CA	212	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	03	CA	120 217 237 242 308 315	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	03	CA	631 632	SMA210/212
CC0110	CERCAP Y5P 150P K 500V Y5: D8	01	CA	418 419	
CC0170	CERCAP Y5P 470P K 500V Y5: D8	01	CA	137	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CA	135 411 153	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	CA	144	SMA210/212
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	01	CA	417 116 420	
CC0513	CERCAP Y5V 3N3 S 1KV Y7.5 D14	02	CA	105 106 107	
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	01	CA	140	
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	01	CA	149 152	
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	01	CA	234 338 125	
CC3310	CHIPCERCAP X7R 8N2 10% 50V 0805	01	CA	621 625 626 628	SMA210/212
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA	115 113 205 214 219 220 221 222 223 224	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA	304 329 404 512 202 124 558 114 540	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	CA	543	
CC4320	CHIPCAP X7R 10N K 50V 1206	02	CA	204	
CC4400	CHIPCAP X7R 47N K 50V 1206	02	CA	210 211 502 523	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA	122 548 146 244 334 209 216 227 232 316	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA	151 702 402 424 431 432 433 434 435 436	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA	442 503 522 529 552 445 538	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CA	613 616 617 618 619 620 623 627 611	SMA210/212
CC4895	CHIPCAP Y5V 470N Z 50V 1206	03	CA	633	SMA210/212
CE0083	X2–CAP 220N M 275VAC Y22,5	08	CA	102	

Part Number	Description	PG	Item Number		
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	04	CA	154 155	
CE0210	X2-CAP 100N M 250VAC Y15	05	CA	104	
CE0126	Y-CAP 4N7 M 400VAC Y12,5 SDPJ21	04	CA	101 103	
CE2034	IMPCAP 270P K 1K5V Y15 061118	04	CA	134 156	
CE2094	IMPCAP 820P K 1K5V Y15 061218	04	CA	307	
CE2196	IMPCAP 2N2 J 2KV Y22,5 081628	06	CA	414 413	
CE2802	IMPCAP 51N J 400V Y15 081418	03	CA	439 415 425	
CE2931	IMPCAP 100N J 250V Y15 081418	04	CA	426	
CE2933	IMPCAP 100N K 400V Y15 091516	04	CA	438 421	
CE3010	IMPCAP 200N J 250V Y22,5	06	CA	427	
CE3088	IMPCAP 400N J 250V Y22,5	07	CA	428	
CE3180	IMPCAP 800N J 250V Y22,5	10	CA	429	
CE3270	IMPCAP 1600N J 250V Y27,5	12	CA	430	
CG2665	PPRCAP KP 4N7 J 63V Y5: 060808	03	CA	119	
CK0163	PESCAP MKT 22N K 250V Y10 051113	02	CA	408 132	
CK0165	PESCAP MKT 22N K 630V Y10 061213	02	CA	110 111	
CK0460	PESCAP MKT 1U0 K 63V Y15 061118	04	CA	622 624	SMA210/212
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	02	CA	305 128	
CK2464	PESCAP MKT 22N K 63V Y5: 030708	02	CA	206 530	
CK2545	PESCAP 47N K 63V Y5: 030708	02	CA	312 218	
CK2626	PESCAP MKT 100N K 63V Y5: 030808	02	CA	336 410	
CK2663	PESCAP MKT 150N J 63V Y5: 040908	03	CA	225	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	03	CA	310	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	03	CA	614 615	SMA210/212
CK0341	PESCAP MKT 220N K 100V Y10 051113	03	CA	233	
CK2784	PESCAP MKT 470N K 63V Y5: 051006	03	CA	228 322 555	
CN0095	ELCAP 330U M 385V RM10 30 X 45	18	CA	108	
CN0320	ELCAP 10U M 25V RM5: 8X8	02	CA	551 701	
CN0379	ELCAP' 22U M 100V RM5 :105'11*14	02			
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CA	317 319 320 126 127	
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CA	238	
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	CA	311 549 123 405 514 147 526 444	
CN2037	ELCAP 10U M 160V RM5 105' 11X21	04	CA	422	
CN2029	ELCAP 4U7 M 100V RM5: 105' 6X12	03	CA	245	
CN2232	ELCAP' 4U7 M 200V RM5 105'10X20	04	CA	440	
CN2435	ELCAP 47U M 35V RM5: 105' 9X12	02	CA	148 143 208 226 446	
CN2461	ELCAP- 47U M 100V RM5 105, 10X16	04	CA	117	
CN2476	ELCAP 47U M 250V RM7,5 105'17X26	09	CA	130 129 306 447	
CN2523	ELCAP 100U M 25V RM5 :105' 9*14	03	CA	133 141 142	
CN2543	ELCAP 100U M 50V RM5 105 11X13	02	CA	215 401 230	
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	05	CA	131	
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	01	CA	213 309	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CA	423 556 505 506 507 508 509 510 511 513	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CA	528 520 521 201 235	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	02	CZ	1 2	
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	02	CA	203 333	
CN2575	ELCAP 22UF M 16V RM5: 105'6X13MM	01	CA	516	
CN2581	ELCAP 220U M 35V RM5 105 11X13	03	CA	229 231	
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	05	CA	136	
CN2749	ELCAP 2200U M 16V RM5 105 14X26	04	CA	150	
CN3150	ELCAP, 4U7 M 50V RM5 105'05 X11	01	CA	443 139	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA	412	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA	610 612 145	SMA210/212
CN3427	ELCAP,2200U M 25V RM7,5 105'16X25	05	CA	138	
FA4000	CHIP INDUCTOR 600OHM 200MA 0805	01	FRA	632 633 634	SMA210/212
FA4000	CHIP INDUCTOR 600OHM 200MA 0805	01	FRZ	622 623 624 625 626 627 628 629 630 631	SMA210/212
FJ0448	CHOKE 13UH FERRITE 2X15	02	LA	104 105	
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	LA	102 103 107 301	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	03	LA	101	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	03	LA	601	SMA210/212
FJ0725	BEAD INDUCTOR MIN IMP360HM	02	FRA	401 402	
FJ0730	LEAD INDUCTOR 270UH 10%	05	LA	404	
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	03	MA	101	
FJ1809	INPUT CHOKE E30 2X9MH	13	MA	102	
FJ3000	INPUT CHOKE E25/7 972UH 445R	13	MA	404	
FM0629	FLYBACK TRAFO 30..90KHZ 3NF 445R	37	MA	301	
FM2573	DRIVER TRAFO E20/6 N67 447G	12	MA	401	
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA	403	
FM2566	CENTERING COIL E25/7 1.35MH 447S	10	MA	402	
FM3506	SMPS-TRAFO ETD49 N27 447G	19	MA	103	
FU0723	FIXED LIN.COIL W/DC-COIL N-S 447S	14	LA	402	
FU0724	FIXED LIN.COIL W/DC-COIL S-N 447S	14	LA	403	
JB0048	DI DTV82F 1500V 6A TO220FI	11	DA	411	
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	04	DA	101 103 104 102	
JF0025	DI 1N4148 75V 200MA 4N	01	DA	314 508 125 107 208 119 302	
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	04	DA	105 129	
JF0033	DI UF5404 400V 3A 50NS	04	DA	409 115 116	
JF0034	DI UF5406 600V 3A 75N	09	DA	306	
JF0060	DI 1N4002 100V 1A	01	DA	207	
JF0062	DI BA159 1000V 400MA 500N	02	DA	426	
JF0072	DI BAV21 200V 250MA 50N	01	DA	108 204 117 212	
JF0073	DI RGP10G 400V 1A 150N	04	DA	433 412 414 417 419 420 421 422 423 424	
JF0073	DI RGP10G 400V 1A 150N	04	DA	425	
JF0074	DI RGP15J 600V 1.5A 250N	04	DA	113	
JF0096	DI BYV28-100 100V 3.5A 30N	07	DA	408	
JF0104	DI BYV27-200 200V 2A 25N SOD57	08	DA	121	SMA210/212
JF0106	DI UF2D-7000 200V 2A 50N MUOVI	03	DA	106 122 123	
JF0168	DIODE BYW98-200 200V 3A DO-27A	04	DA	404 118	
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	04	DA	202 203	
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	DA	213 128	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA	210 110 109 111 112 124 211 701 434	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA	505 506 206 209 126 127 201 205 301 303	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA	304 305 403 315 316 317 318 401 402 405	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA	406 407 415 416 418 428 429 510	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DA	307 308 430 431 432	
JH0054	ZDI BZX83C12 12V 0.5W 5%	01	DZA	301 401 402	
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	01	DZA	101	
JH0085	ZDI BZX83C22 22V 0.5W 5%	01	DZA	201	
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	02	DZA	502	
JH0087	ZDI BZX83C5V1 5.1V 0.5W 5%	01	DZA	501	
JH0095	ZDI BZX79B12 12V 0,5W 2%	03	DZA	102	
JH4109	ZDI BZX84C5V1 5.1V 0.35W 5%	03	DZA	504	
JL0058	LED DUALCOLOR RED/GREEN 3 MM	04	LED	701	
JL0069	OPTOCOUPLER VRMS 5KV	04	ICA	106 107	
JM0099	TR BC547B N 45V 100A 200M:	01	TA	301 305 307 402	
JM0100	TR BC557B P 45V 100A 200M:	01	TA	302 306 403 425	
JM0202	TR MPSA44 N 400V 300MA TO92	03	TA	116	
JM0205	TR BF423 P 250V 25MA 60M:	03	TA	108 404	
JM0239	TR BC638 P 60V 1A 50M:	04	TA	317 103	
JM0227	TR MPS2369 N 15V 200MA 500M	03	TA	204	
JM0244	TR BF422 N 250V 25MA 60M:	02	TA	311 408 412	
JM0252	TR BC639-10 N 100V 1.5A TO92	03	TA	318 421	
JM0273	TR 2N5551 NPN 160V 0,6A	02	TA	203 205 104	
JM0280	TR 2N5401 P 150V 0.6A 100M	02	TA	409	
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	04	TA	411	
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	04	TA	414	
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA	407	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA	111 201 206 110 508 416 502 601 602 603	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA	309 401 413 422 101	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TA	601 602 603	SMA210/212
JM4114	TR BC857B P 45V 100MA 150M:	02	TA	501 105 113 106 202 308 310 423 114	
JM4114	TR BC857B P 45V 100MA 150M:	02	TA	112 504 503 506	
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	02	TA	505 507	
JS0016	FET SSP6N60 N 600V 6.A 1R2 TO220	11	TA	102	
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA	406	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA	303	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA	405	
JS0030	FET IRF620 200V 5A 0.8R TO-220	07	TA	415	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	109	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	115	SMA211/212
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA	304	
JS1006	FET BS170 N 60V 500MA	10	TA	107	
JS2001	FETARRAY SLA5038 N 5X150V 7A 0R23	21	ICA	402	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01			
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	ICA	104	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	TA	102	
JZ0005	SILICONE INSUL. PAD 19*13*0.22MM	01	ICA	203	
JZ0010	SILICONE INSUL. 20*25*0.22MM	08	TA	407	
LM0067	IC UA7805UC +5V REGULATOR TO-220	13	ICA	102	
LM0455	IC LM358N DUAL OP-AMP DIL-8	11	ICA	302	
LM0603	IC LM2940CT LOW DROP REG.5V TO220	08	ICA	104	
LM0967	IC SI-3120FA 12V LOWDROP REG 2%	09	ICA	103	
LM0930	IC STV9379 VERT.DEFL.BOOSTER	14	ICA	203	
LM0937	IC TDA9105 DEFLECTION PROCESSOR	20	ICA	201	
LM0938	IC ST72E72 MONITOR UC,DDC DIP-56	34	ICA	501	
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	06	ICA	105 508	
LM0945	IC 24C65 SERIAL EEPROM 8X8K DIP-8	16	ICA	504	
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA	101	
LM0974	IC LM4832N BOOMER DIL28	18	ICA	601	SMA210/212
LM0975	IC TDA2615 AUDIO POWER AMP SOT110	13	ICA	602	SMA210/212
LM4017	IC 74HCT02 QUAD 2-INPUT NOR SO-14	04	ICA	502	
LM4022	IC 74HCT74 DUAL D-FLIP-FLOP SO-14	04	ICA	503	
LM4111	IC 4538BT	05	ICA	301 401	
LM4208	IC 74HC86 2-INPUT EXCL. OR SO-14	04	ICA	202	
LM4406	IC LM324 QUAD OP-AMP SO-14	04	ICA	304	
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	12	ICA	506	
LZ0063	IC-SOCKET 56-POLE DUAL LEAF 1.78	10	ICA	501	
LZ0003	IC-SOCKET 8-POLE DIL SINGLE LEAF	01	ICA	504	
QA0095	CRYSTAL 8,00 MHZ HC-49/U	07	XA	501	
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	08	SWA	701	
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	15	PA	701	
QH0068	RELAY PCB-MOUNT 12V 5A/250V DPDT	13	REA	101	
QK1222	ROW CONN 1X02 2,5 VERT STG LOCK	02	QA	613	SMA210/212
QK1223	ROW CONN 1X03 2,5 VERT STG LOCK	02	QA	103	SMA211/212
QK1224	ROW CONN 1X04 2,5 VERT STG LOCK	02	QA	618 619	SMA210/212
QK1225	ROW CONN 1X05 2,5 VERT STG LOCK	02	QA	610	SMA210/212
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	02	QA	102	
QK1702	PICOFLEX HEADER 1X06 1,27MM	03	QA	611	
QK1415	CRIPLET CONN FOR 2-SIDED PCB	01	QA		
QK1464	"ROW CONN ""JST"" 1X03 2,5 VERT"	03	QA	301	
QK1494	CONN PLUG FOR DY W-P3005-01	03	QA	201	
QK1495	CONN PLUG FOR DY CM16506-0101	03	QA	401	
QK1490	MINIATURE JACK 3.5MM VERT GREY 7W	08	QZ	2 3	SMA210/212
QK1587	COOLING & SUPP.PART FOR RESISTOR	01	RA	109 109	
QK1599	COOLING & SUPP.PART FOR RES L12MM	01	NTCA	1	
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	08	QA	101	

Part Number	Description	PG	Item Number				
QK1675	SOLDER SUPPORT FOR CABLE 2-POS	02	QA	621			SMA210/212
QK1675	SOLDER SUPPORT FOR CABLE 2-POS	02	QZ	4	5		SMA210/212
QK1694	RCA JACK UNIT 2X6.3MM R/W PCB90	08	QA	614			SMA210/212
QK1694	RCA JACK UNIT 2X6.3MM R/W PCB90	08	QA				SMA210
QK1701	PICOFLEX HEADER 1X04 1,27MM	03	QA	503			
QK1702	PICOFLEX HEADER 1X06 1,27MM	03	QA				SMA210/212
QK1703	PICOFLEX HEADER 1X08 1,27MM	03	QA	504			
QK1712	PIN JACK 3,6MM MONO H=6,5MM	03	QA	615			SMA210/212
QK1713	USB CONN SERIE-A DOUBLE STACKED	11	QA	601	602		SMA211/212
QK1714	USB CONN SERIE-B	07	QA	603			SMA211/212
QM1001	PICOFLEX ASSY BI-IDC 8-POS 150MM	06	QA	701			
QM1013	PICOFLEX ASSY BI-IDC 10-POS 400MM	10	QA	202			
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	03	GLA	302	303		
QM1019	PICOFLEX ASSY BI-IDC 16-POS 420MM	11	QA	502			
QM1025	PICOFLEX ASSY BI-IDC 6-POS 250MM	07	QZ	1			SMA210/212
QM1029	PICOFLEX ASSY BI-IDT 20POS 100MM	10	QA	604			SMA211/212
QM1030	PICOFLEX ASSY BI-IDC 4-POS 350MM	08	QZ	702			
QM1030	PICOFLEX ASSY BI-IDC 4-POS 350MM	08	QA	606			
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	01	FA	101	101		
QT0207	GLIMM LAMP 95V 6*12,5MM	04	GLA	301			
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	04	FA	102	103		
QT0776	FUSE 5*20MM T 4.0A 250V 1500A	03	FA	101			
SE2185	GROUNDING WIRE 7752	03	WA	101			
QK1035	CABLE SHOE 160101-2	02					
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01					
SE2601	GROUNDING WIRE 449M	03	WA	601			
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01		3			
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	01		2			
SE2679	GROUNDING WIRE 447S	03	WA	301			
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	01		3			
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	01		2			
SE2706	AUDIO CABLE 447Z/447S	10					SMA210/212
QK1104	IDC WIRE CONN 1X04 2,5	03		2			
XS0499	CABLE 3+1-POLE COMM.SHIELD 2.50MM	07		1			
UC0859	FASTENING SPRING PN44473	01	TA	303	304	405	
UC0859	FASTENING SPRING PN44473	01	ICA	104	103		
UC1140	COOLING PLATE PN45154 COPPER	03	TA	303	304	405	
UC1140	COOLING PLATE PN45154 COPPER	03	ICA	104	103		
UC6551	FASTENING SPRING	03	ICA	203			
UC6551	FASTENING SPRING	03	DA	411			

Part Number	Description	PG	Item Number					
UC6551	FASTENING SPRING	03	TA	102				
UC6552	FASTENING SPRING	03	TA	407				
UC6752	WASHER 447E	01						
UC6859	COOLING PLATE 447S	09	TA	407				
UC6859	COOLING PLATE 447S	09	DA	411				
UC6859	COOLING PLATE 447S	09	ICA	402				
UC6862	FAST.SPRING 447S	02	ICA	402				
UC6863	CONNECT PANEL	09						SMA203/210
UC6864	SUPPORT 447S	04						
UC6865	FRONT SUPPORT 447S	04						
UC6886	INTERF.SHIELD 447S	02						
UC6907	USB/CONN.PANEL 447Z	09						SMA211/212
UCX012	DIODE COOLING PLATE ASSEMBLY JF0166	05	DA	114				
JF0166	DIODE BYM26C 600V 2.3A SOD-64	04						
UCX015	DIODE COOLING PLATE ASSEMBLY JF0168	05	DA	120				
JF0168	DIODE BYW98-200 200V 3A DO-27A !	04						
UC6860	COOLING PLATE 447S	09	TA	102				
UC6860	COOLING PLATE 447S	09	ICA	203				
UC6861	COOLING PLATE 447S	09	TA	102				
UC6861	COOLING PLATE 447S	09	ICA	203				
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	01	TA	102				
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	01	ICA	203				
UG1016	LOCK UP INSULATOR PN40421	01		–				
UJ0217	EDGE HOLD.WIRE EHWSE	03						
UG0699	SUPPORT GRID PN10121	10						
UG0770	WIRE HOLDER 11X20MM	02						
UG0812	INSULATOR PN30068 445R	04						
UG0814	INSULATOR PN30084 447K	06						
UG1001	INSULATOR	03	TA	102				
UG1001	INSULATOR	03	ICA	203				
UG1002	MINI SUPPORT POST MSPM-8-01	03						SMA211/212
WA0749	M4X8 DIN962 DIN269 8.8	01						
WL0217	WASHER 4,3 ST DIN6798A	01						
XW0032	DOW CORNING	32	TA	407	405	304	303	
XW0032	DOW CORNING	32	ICA	402	203	104	103	
XW0032	DOW CORNING	32	DA	411				
WC0036	UNI6950 SCREW	01						
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	01		32				
WC0446	SCREW 2,9X8 FE/ZN	01						
WC0353	PT-SCR KB 40X10 WN1447 FE/ZN YELL	01	MA	301				


SMA211
SMA212
USB
Q102
Q103
DEMA
PTC1
PTC2
VALUE
RE101
C101 4n7
C102 220n
C103 4n7
Q101
L
N
W101
F101 T4.0A
M101 FJ0800
R101 1M
M102 FJ1481
C104 100n
NTC1
D101 GP30M
D102 GP30M
D103 GP30M
D104 GP30M
C105 3n3
C107 3n3
C106 3n3
C108 330u 385V
R102 4M7
R103 4M7
C154 2n2
C155 2n2
R104 470k
R105 470k
R106 470k
R107 470k
POWER1
POWER2
15V
RE101
D111 LL4148
T107 BS170
D112 LL4148
R135 464
DEMA
R136 4M7
C127 1u 50V
D126 LL4148
T115 IRF820
R174 100k
T116 MPSA44
R175 56k
R176 56k
D127 LL4148
R110 4M7
R111 3M3
R173 220k
R172 100k
R108 22k
T101 BC847
C111 22n 630V
R109 39k 4W
C110 22n 630V
D105 UF4007
T102 SSP6N60
C113 10n
T105 BC857
C114 10n
R114 10k
D109 LL4148
R116 22
C115 10n
R115 6k8
R117 2k2
C116 2n2
R118 1k5
R119 0R56
R120 0R56
R121 1R5
R178 470
C156 270
D129 UF4007
D106 UF2D
C117 47u 100V
R122 4k64
T103 BC638
T104 2N5551
DZ101 8V2
D107 1N4148
R123 4k7
C118 100
IC101 L4990
SYNC
RCT
DC
VREF
VFB
COMP
SS
VCC
DC-LIM
DIS
ISEN
SGND
PGND
OUT
VC
R134 330
R133 33k
T106 BC857
C119 4n7
R129 22k
R130 22k
C126 1u
R128 39k
C125 4n7
R132 22k
R131 1k0
D110 LL4148
R127 10k
C124 10n
C123 10u 35V
C122 100n
R124 1k0
C120 1n0
C121 330
D108 BAV21
R125 100
R126 8k2
D128 BAV103
L101 FJ0517
M103 FM3503
D113 RCP15J
R138 154
C128 10n
R137 383k
D114 BYM26C
C129 47u 250V
C130 47u 250V
170V
L102 FJ0505
C131 100u 100V
C157 22u 100V
64V
D115 UF5404
D116 UF5404
T108 BF423
C132 22n
C133 100u 25V
R144 1k00
R145 121k
R139 1k0
R140 1k0
C134 270
R141 1R00
R142 1R54
R143 464
BAV21 D117
R147 10k
R146 100
T109 IRF820
IC102 7805
STBY_5V
C140 4n7
DZ102 12V
D119 1N4007
C141 100u
C142 100u
R148 0R22
D118 BYW98-200
L103 FJ0505
-13V
R149 46R4
C135 1n0
C136 1000u 16V
15V
F102 3.15A
L104 FJ0448
D120 BYW98-200
C138 2200u 35V
C139 4u7 50V
IC103 SI-3120F
Vc on/off
12V
L107 FJ0505
B_12V (3.4)
C143 47u 35V
R150 46R4
C137 470
R156 47k
STBY_5V
SUSPEND (1.5)
R151 0R22
D121 BYV27-200
10V
C145 1000u 16V
R152 46R4
C144 1n0
SMA210
SMA212
7V
IC104 LM2940CT
5V
C146 100n
C147 10u 35V
C148 47u 16V
L105 FJ0448
D122 UF2D
F103 3.15A
C150 2200u 16V
D123 UF2D
C149 2n2
R153 220
R154 220
STBY_5V
UVLO (2.4)
R158 10k
R177 10k
T110 BC847
R160 10k
T111 BC847
AUDIO_MUTE (6)
STBY_5V
R169 2k2
T113 BC857
R167 470
R165 2k2
R168 470
R166 2k2
R164 10k0
R161 1k8
SUSPEND (1.5)
IC106 SFH618
C151 100n
R162 1k0
R157 470k
T114 BC857
IC105 TL431
C152 2n2
R159 33k
T112 BC857
STBY_5V
D125 1N4148
POWER_OFF (5)
R163 47k
R171 1k0
D124 LL1418
C153 1n0
STBY_5V
RT101 10k
IC107 SFH618
H_FLY (5)

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB. Safety components marked with ⚠ must be replaced with original or approved components only.

All printed boards and the back cover are also safety components

POWER SUPPLY

56011F

SHEET 1 OF 6

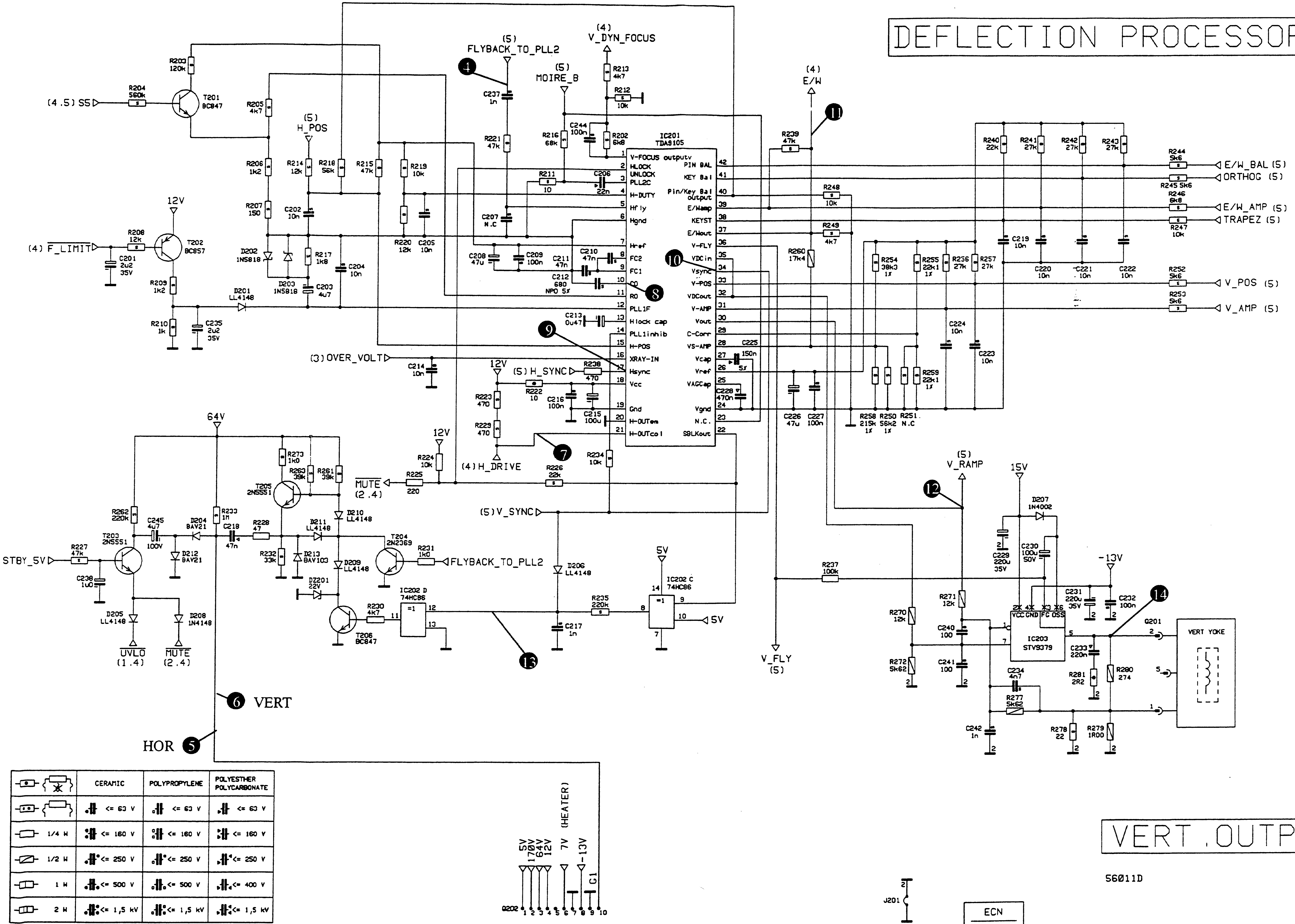
ECN

447G017

SMA F

D3136F 03.98 Page 3

DEFLECTION PROCESSOR

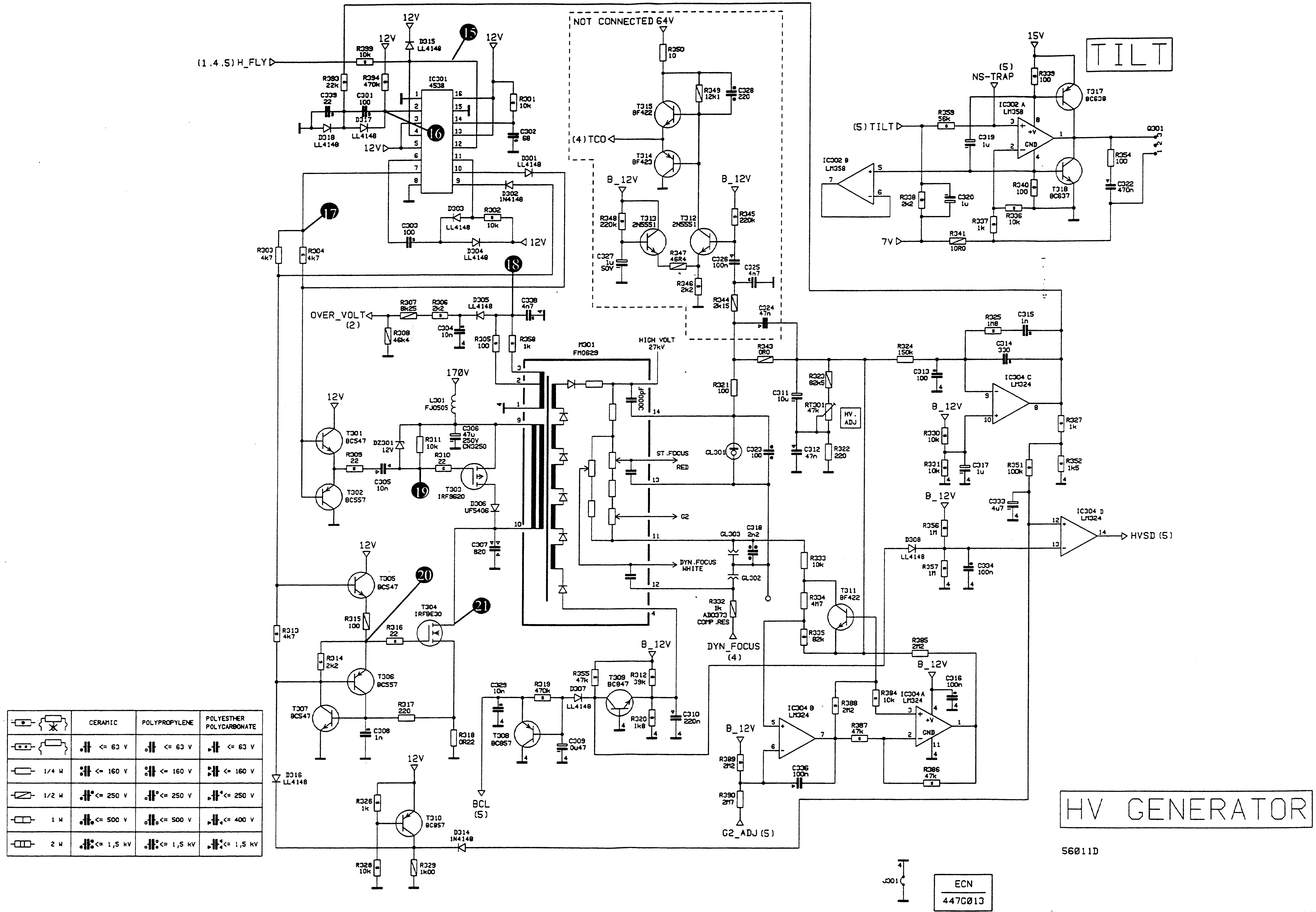

(5) FLYBACK_TO_PLL2
(4) V_DYN_FOCUS
(5) MOIRE_B
(4) E/W
(5) H_POS
(4.5) SS
R204 560k
R203 120k
T201 BC847
R205 4k7
R206 1k2
R207 150
R214 12k
R218 56k
R215 47k
R219 10k
C202 10n
R220 12k
C205 10n
R217 1k8
C204 10n
C203 4u7
D202 1N5818
D203 1N5818
12V
(4) F_LIMIT
R208 12k
T202 BC857
C201 2u2 35V
R209 1k2
D201 LL4148
R210 1k
C235 2u2 35V
C237 1n
R221 47k
C207 N.C
R213 4k7
R212 10k
R216 68k
C244 100n
R202 6k8
IC201 TDA9105
R211 10
C206 22n
C208 47u
C209 100n
C211 47n
C210 47n
C212 680 NPO 5%
C213 0u47
1 V-FOCUS outputv
2 HLOCK UNLOCK
3 PLL2C
4 H-DUTY
5 Hfly
6 Hgnd
7 Href
8 FC2
9 FC1
10 CO
11 RO
12 PLL1F
13 Hlock cap
14 PLL1inhib
15 H-POS
16 XRAY-IN
17 Hsync
18 Vcc
19 Gnd
20 H-OUTem
21 H-OUTcol
42 PIN BAL
41 KEY Bal
40 Pin/Key Bal output
39 E/Wamp
38 KEYST
37 E/Wout
36 V-FLY
35 VDCin
34 Vsync
33 V-POS
32 VDCout
31 V-AMP
30 Vout
29 C-Corr
28 VS-AMP
27 Vcap
26 Vref
25 VAGCap
24 Vgnd
23 N.C.
22 SBLKout
(3) OVER_VOLT
C214 10n
(5) H_SYNC
R238 470
R222 10
C216 100n
C215 100u
R223 470
R229 470
(4) H_DRIVE
R224 10k
R234 10k
R226 22k
R225 220
MUTE (2.4)
R239 47k
R248 10k
R249 4k7
R260 17k4
C225 150n 5%
C228 470n
C226 47u
C227 100n
R240 22K
R241 27k
R242 27k
R243 27k
C219 10n
C220 10n
C221 10n
C222 10n
R244 5k6
R245 5k6
R246 6k8
R247 10k
E/W_BAL (5)
ORTHOG (5)
E/W_AMP (5)
TRAPEZ (5)
R254 38k3 1%
R255 22k1 1%
R256 27k
R257 27k
R252 5k6
R253 5k6
V_POS (5)
V_AMP (5)
C224 10n
C223 10n
R258 215k 1%
R250 56k2 1%
R251 N.C
R259 22k1 1%
64V
R273 1k0
R263 39k
R261 39k
T205 2N5551
R262 220k
C245 4u7 100V
D204 BAV21
R233 1M
C218 47n
R228 47
D211 LL4148
D210 LL4148
T203 2N5551
STBY_5V
R227 47k
C238 1u0
D212 BAV21
R232 33k
D213 BAV103
D209 LL4148
T204 2N2369
R231 1k0
FLYBACK_TO_PLL2
DZ201 22V
D205 LL4148
D208 1N4148
UVLO (1.4)
MUTE (2.4)
T206 BC847
R230 4k7
IC202 D 74HC86
=1
11
12
13
(5) V_SYNC
D206 LL4148
R235 220k
C217 1n
5V
IC202 C 74HC86
14
8
9
10
7
5V
V_FLY (5)
(5) V_RAMP
15V
D207 1N4002
C229 220u 35V
C230 100u 50V
R237 100k
-13V
C231 220u 35V
C232 100n
R271 12k
R270 12k
R272 5k62
C240 100
C241 100
IC203 STV9379
VCC GND FC OSS
C233 220n
R281 2R2
R280 274
Q201
VERT YOKE
C234 4n7
R277 5k62
C242 1n
R278 22
R279 1R00
HOR ⑤
⑥ VERT
④
⑦
⑧
⑨
⑩
⑪
⑫
⑬
⑭
5V
170V
64V
12V
7V (HEATER)
-13V
C1
Q202 1 2 3 4 5 6 7 8 9 10
J201
2

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

VERT.OUTPUT

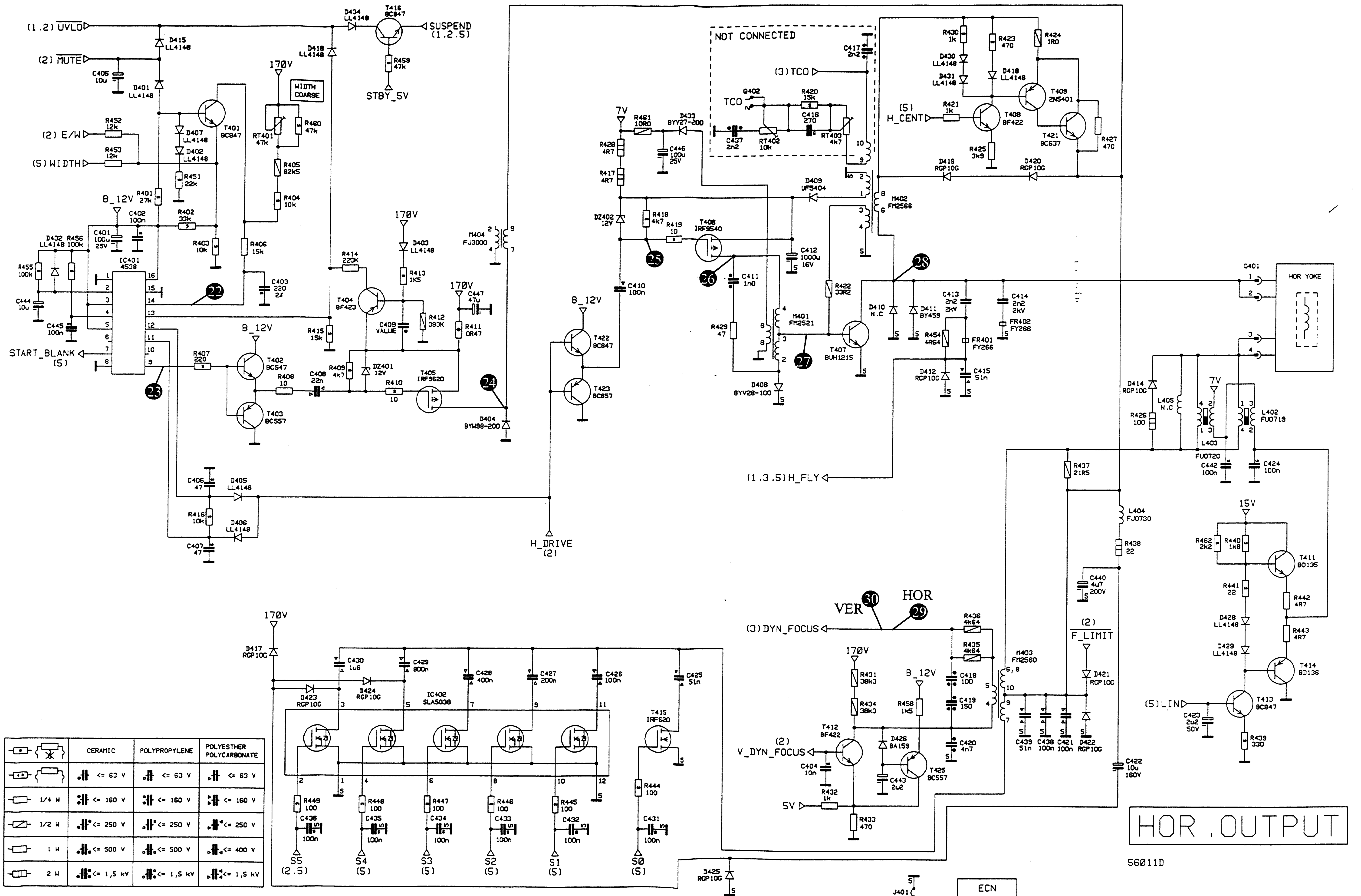
56011D

ECN
447G013

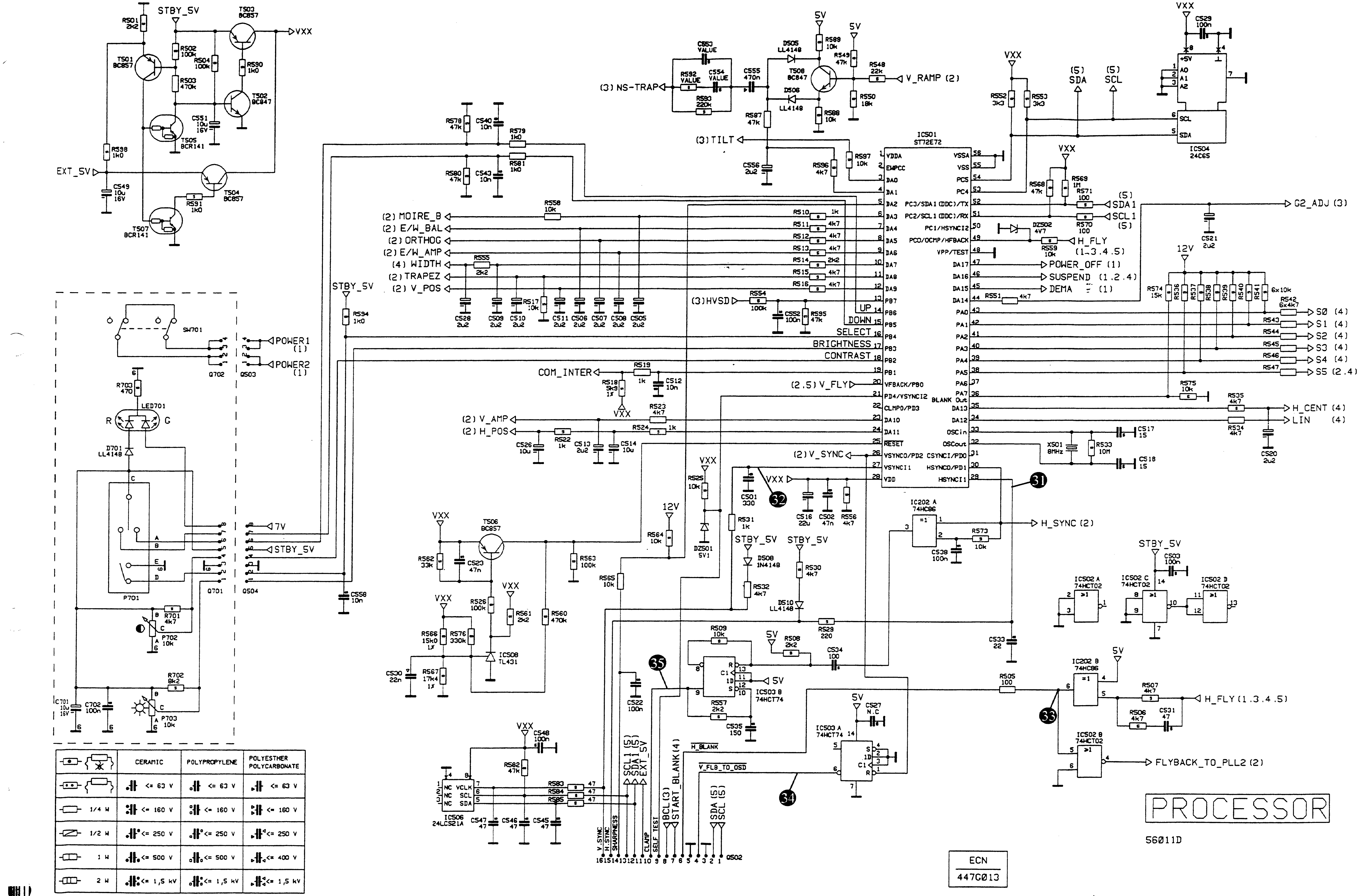

TILT
HV GENERATOR
(1.4.5) H_FLY
R399 10k
R393 22k
R394 470k
C339 22
C301 100
D318 LL4148
D317 LL4148
12V
D315 LL4148
IC301 4538
R301 10k
C302 68
D301 LL4148
D302 1N4148
D303 LL4148
R302 10k
C303 100
D304 LL4148
R303 4k7
R304 4k7
OVER_VOLT (2)
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 46k4
C304 10n
R305 100
R358 1k
M301 FM0629
HIGH VOLT 27kV
170V
L301 FJ0505
C306 47u 250V CN3250
DZ301 12V
R311 10k
R309 22
R310 22
C305 10n
T301 BC547
T302 BC557
T303 IRF9620
D306 UF5406
C307 820
3000pF
ST.FOCUS RED
G2
DYN.FOCUS WHITE
NOT CONNECTED 64V
R350 10
R349 12k1
C328 220
T315 BF422
(4) TCO
T314 BF423
B_12V
R348 220k
T313 2N5551
T312 2N5551
R345 220k
C327 1u 50V
R347 46R4
C326 100n
C325 4n7
R346 2k2
R344 2k15
C324 47n
R343 0R0
R321 100
C311 10u
R323 82k5
RT301 47k
HV. ADJ
GL301
C323 100
C312 47n
R322 220
GL303
C318 2n2
GL302
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
R333 10k
R334 4M7
R335 82k
T311 BF422
15V
(5) NS-TRAP
R339 100
T317 BC638
(5) TILT
R359 56k
IC302 A LM358
C319 1u
+V
GND
Q301
R354 100
C322 470n
IC302 B LM358
R338 2k2
C320 1u
R340 100
T318 BC637
R337 1k
R336 10k
7V
R341 10R0
R325 1M8
C315 1n
R324 150k
C314 330
C313 100
IC304 C LM324
R330 10k
R331 10k
C317 1u
R327 1k
R351 100k
R352 1k5
C333 4u7
R356 1M
D308 LL4148
R357 1M
C334 100n
IC304 D LM324
HVSD (5)
12V
T305 BC547
R315 100
R316 22
T304 IRFBE30
R313 4k7
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
D316 LL4148
R326 1k
T310 BC857
D314 1N4148
R328 10k
R329 1k00
C329 10n
R319 470k
D307 LL4148
R355 47k
T309 BC847
R312 39k
R320 1k8
C310 220n
T308 BC857
C309 0u47
BCL (5)
R389 2M2
R390 2M7
G2_ADJ (5)
IC304 B LM324
C336 100n
R388 2M2
R387 47k
R384 10k
IC304 A LM324
C316 100n
R386 47k
R385 2M2
J301
ECN
447C013
15
16
17
18
19
20
21

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

56011D


(1.2) UVLO
(2) MUTE
(2) E/W
(5) WIDTH
B_12V
START_BLANK (5)
D415 LL4148
C405 10u
D401 LL4148
R452 12k
R453 12k
D407 LL4148
D402 LL4148
R451 22k
R401 27k
T401 BC847
C402 100n
R402 33k
C401 100u 25V
D432 LL4148
R456 100k
R455 100k
C444 10u
C445 100n
IC401 4538
R403 10k
R406 15k
C403 220 2%
170V
WIDTH COARSE
RT401 47k
R460 47k
R405 82k5
R404 10k
D434 LL4148
T416 BC847
SUSPEND (1.2.5)
D418 LL4148
R459 47k
STBY_5V
R414 220K
T404 BF423
R415 15k
C409 VALUE
R412 383K
D403 LL4148
R413 1K5
C447 47u
R411 0R47
R407 220
T402 BC547
T403 BC557
R408 10
C408 22n
R409 4k7
DZ401 12V
R410 10
T405 IRF9620
D404 BYW98-200
M404 FJ3000
C406 47
D405 LL4148
R416 10k
D406 LL4148
C407 47
H_DRIVE (2)
T422 BC847
T423 BC857
7V
R461 10R0
D433 BYY27-200
C446 100u 25V
R428 4R7
R417 4R7
DZ402 12V
R418 4k7
R419 10
T406 IRF9540
C412 1000u 16V
C410 100n
C411 1n0
R429 47
M401 FM2521
D408 BYV28-100
NOT CONNECTED
(3) TCO
Q402
TCO
R420 15k
C416 270
C437 2n2
RT402 10k
RT403 4k7
C417 2n2
D409 UF5404
M402 FM2566
R422 33R2
T407 BUH1215
D410 N.C
D411 BY459
C413 2n2 2kV
C414 2n2 2kV
R454 4R64
FR401 FY266
FR402 FY266
D412 RGP10G
C415 51n
R430 1k
R423 470
R424 1R0
D430 LL4148
D431 LL4148
D418 LL4148
T409 2N5401
(5) H_CENT
R421 1k
T408 BF422
T421 BC637
R427 470
R425 3k9
D419 RGP10G
D420 RGP10G
Q401
HOR YOKE
D414 RGP10G
L405 N.C
R426 100
L403 FU0720
L402 FU0719
C442 100n
C424 100n
(1.3.5) H_FLY
R437 21R5
L404 FJ0730
R438 22
C440 4u7 200V
C422 10u 160V
15V
R462 2k2
R440 1k8
T411 BD135
R441 22
R442 4R7
D428 LL4148
D429 LL4148
R443 4R7
T414 BD136
(5) LIN
C423 2u2 50V
T413 BC847
R439 330
VER
HOR
(3) DYN_FOCUS
R436 4k64
R435 4k64
M403 FM2560
(2) F_LIMIT
D421 RGP10G
170V
R431 38k3
R434 38k3
B_12V
R458 1k5
C418 100
C419 150
C420 4n7
T412 BF422
D426 BA159
T425 BC557
(2) V_DYN_FOCUS
C404 10n
C443 2u2
R432 1k
5V
R433 470
C439 51n
C438 100n
C421 100n
D422 RGP10G
D417 RGP10G
C430 1u6
C429 800n
C428 400n
C427 200n
C426 100n
C425 51n
D423 RGP10G
D424 RGP10G
IC402 SLA5038
T415 IRF620
R449 100
R448 100
R447 100
R446 100
R445 100
R444 100
C436 100n
C435 100n
C434 100n
C433 100n
C432 100n
C431 100n
S5 (2.5)
S4 (5)
S3 (5)
S2 (5)
S1 (5)
S0 (5)
D425 RGP10G
J401
ECN 447G013
56011D
CERAMIC
POLYPROPYLENE
POLYESTHER POLYCARBONATE
1/4 W
1/2 W
1 W
2 W
<= 63 V
<= 160 V
<= 250 V
<= 500 V
<= 400 V
<= 1,5 kV
22
23
24
25
26
27
28
29
30

HOR .OUTPUT



STBY_5V
VXX
EXT_5V
RS01 2k2
RS02 100k
RS03 470k
RS04 100k
RS90 1k0
RS98 1k0
RS91 1k0
TS01 BC857
TS02 BC847
TS03 BC857
TS04 BC857
TS05 BCR141
TS07 BCR141
CS51 10u 16V
CS49 10u 16V
SW701
POWER1 (1)
POWER2 (1)
Q702
QS03
R703 470
LED701
R
G
D701 LL4148
P701
R701 4k7
P702 10k
R702 8k2
P703 10k
C701 10u 16V
C702 100n
Q701
QS04
7V
STBY_5V
(3) NS-TRAP
CS53 VALUE
RS92 VALUE
CS54 VALUE
RS90 220k
CS55 470n
DS05 LL4148
DS06 LL4148
TS08 BC847
RS89 10k
RS49 47k
RS48 22k
V_RAMP (2)
RS50 18k
RS88 10k
RS87 47k
(3) TILT
CS56 2u2
RS96 4k7
RS97 10k
ICS01 ST72E72
VDDA
EMPCC
DA0
DA1
DA2
DA3
DA4
DA5
DA6
DA7
DA8
DA9
PB7
PB6
PB5
PB4
PB3
PB2
PB1
VFBACK/PB0
PD4/VSYNCI2
CLMP0/PD3
DA10
DA11
RESET
VSYNC0/PD2 CSYNCI/PD0
VSYNCI1
VDD
VSSA
VSS
PC5
PC4
PC3/SDA1 (DDC)/TX
PC2/SCL1 (DDC)/RX
PC1/HSYNCI2
PC0/OCMP/HFBACK
VPP/TEST
DA17
DA16
DA15
DA14
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
BLANK Out
DA13
DA12
OSCin
OSCout
HSYNC0/PD1
HSYNCI1
(2) MOIRE_B
(2) E/W_BAL
(2) ORTHOG
(2) E/W_AMP
(4) WIDTH
(2) TRAPEZ
(2) V_POS
RS58 10k
RS55 2k2
RS10 1k
RS11 4k7
RS12 4k7
RS13 4k7
RS14 2k2
RS15 4k7
RS16 4k7
RS17 10k
CS28 2u2
CS09 2u2
CS10 2u2
CS11 2u2
CS06 2u2
CS07 2u2
CS08 2u2
CS05 2u2
RS78 47k
CS40 10n
RS79 1k0
RS80 47k
CS43 10n
RS81 1k0
STBY_5V
RS94 1k0
CS58 10n
(3) HVSD
RS54 100k
CS52 100n
RS95 47k
UP
DOWN
SELECT
BRIGHTNESS
CONTRAST
COM_INTER
RS19 1k
CS12 10n
RS18 5k9 1%
VXX
(2.5) V_FLY
(2) V_AMP
RS23 4k7
(2) H_POS
RS24 1k
RS22 1k
CS26 10u
CS13 2u2
CS14 10u
(2) V_SYNC
VXX
RS25 10k
DZS01 5V1
CS01 330
32
CS16 22u
CS02 47n
RS56 4k7
RS31 1k
12V
RS64 10k
RS65 10k
CS22 100n
TS06 BC857
RS62 33k
CS23 47n
RS63 100k
RS26 100k
RS61 2k2
RS60 470k
RS66 15k0 1%
RS76 330k
ICS08 TL431
CS30 22n
RS67 17k4 1%
STBY_5V
DS08 1N4148
RS32 4k7
RS30 4k7
DS10 LL4148
RS29 220
RS09 10k
RS08 2k2
5V
CS34 100
ICS03 B 74HCT74
RS57 2k2
CS35 150
35
ICS03 A 74HCT74
CS27 N.C
H_BLANK
V_FLB_TO_OSD
34
VXX
CS48 100n
RS82 47k
RS83 47
RS84 47
RS85 47
ICS06 24LCS21A
NC VCLK
NC SCL
NC SDA
CS47 47
CS46 47
CS45 47
SCL1 (5)
SDA1 (5)
EXT_5V
V.SYNC
H.SYNC
SHARPNESS
CLAMP
SELF_TEST
BCL (3)
START_BLANK (4)
SDA (5)
SCL (5)
16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
QS02
VXX
CS29 100n
+5V
A0
A1
A2
SCL
SDA
ICS04 24C65
(5) SDA
(5) SCL
RS52 3k3
RS53 3k3
VXX
RS68 47k
RS69 1M
RS71 100
(5) SDA1
RS70 100
SCL1 (5)
DZS02 4V7
RS59 10k
H_FLY (1.3.4.5)
POWER_OFF (1)
SUSPEND (1.2.4)
DEMA (1)
RS51 4k7
G2_ADJ (3)
CS21 2u2
12V
RS74 15k
RS36
RS37
RS38
RS39
RS40
RS41
6x10k
RS42 6x4k7
RS43
RS44
RS45
RS46
RS47
S0 (4)
S1 (4)
S2 (4)
S3 (4)
S4 (4)
S5 (2.4)
RS75 10k
RS35 4k7
H_CENT (4)
RS34 4k7
LIN (4)
CS20 2u2
CS17 15
XS01 8MHz
RS33 10M
CS18 15
31
IC202 A 74HC86
H_SYNC (2)
RS73 10k
CS38 100n
CS33 22
STBY_5V
CS03 100n
ICS02 A 74HCT02
ICS02 C 74HCT02
ICS02 D 74HCT02
5V
IC202 B 74HC86
RS05 100
33
RS07 4k7
H_FLY (1.3.4.5)
RS06 4k7
CS31 47
ICS02 B 74HCT02
FLYBACK_TO_PLL2 (2)

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

PROCESSOR

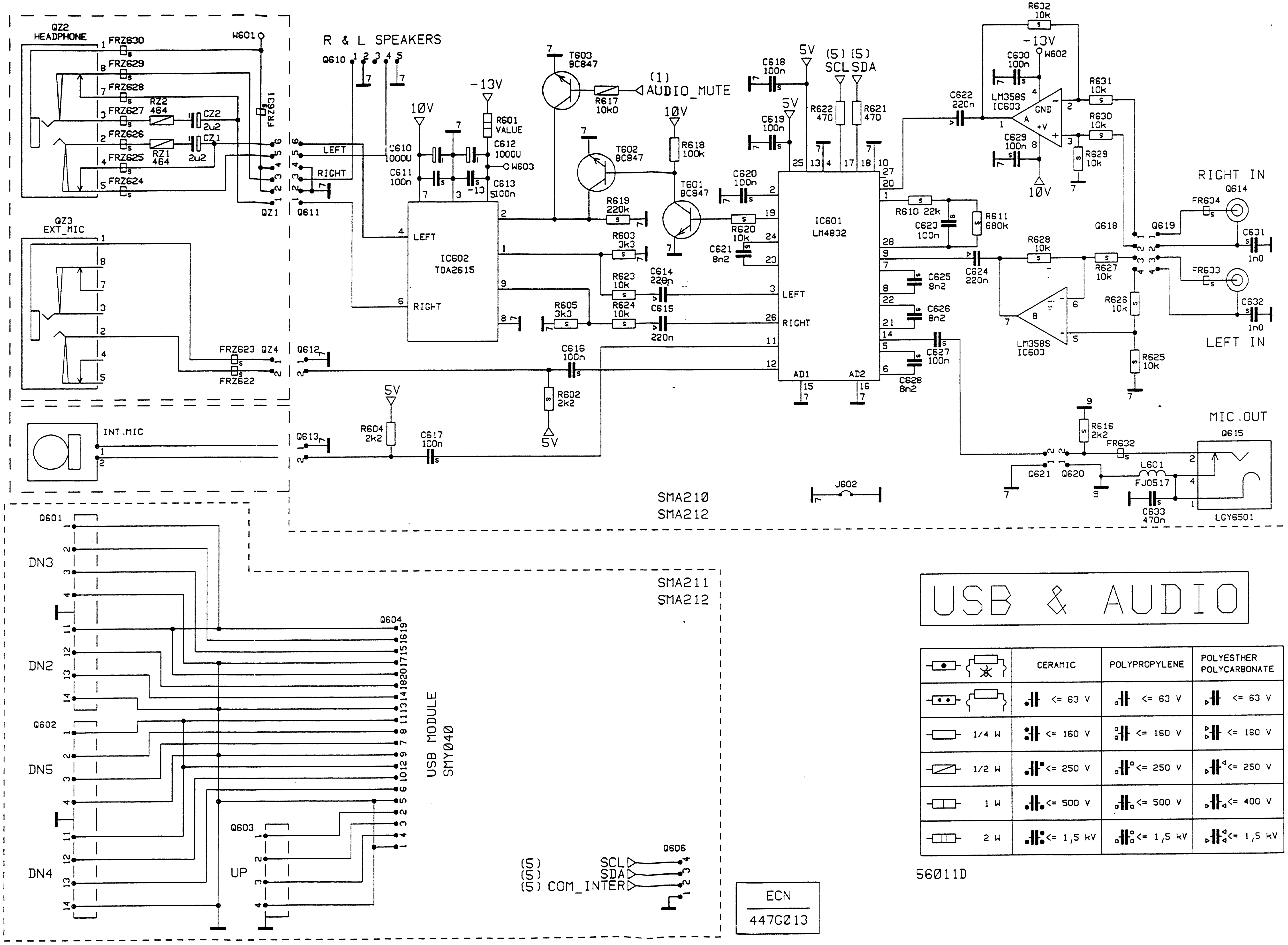
S6011D

ECN
447G013

447G

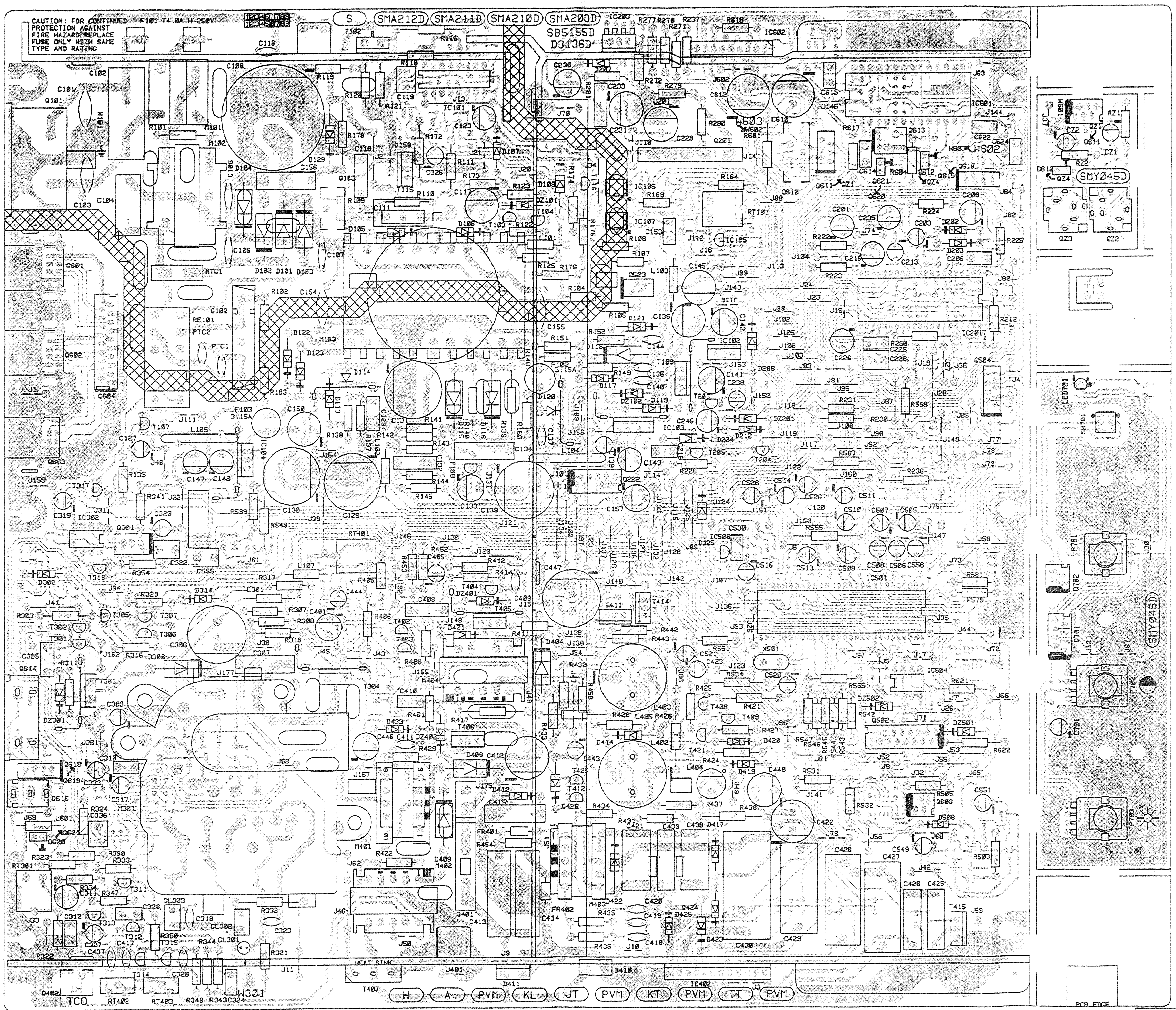
SMA D
2
D3136D 01.98 Page 21

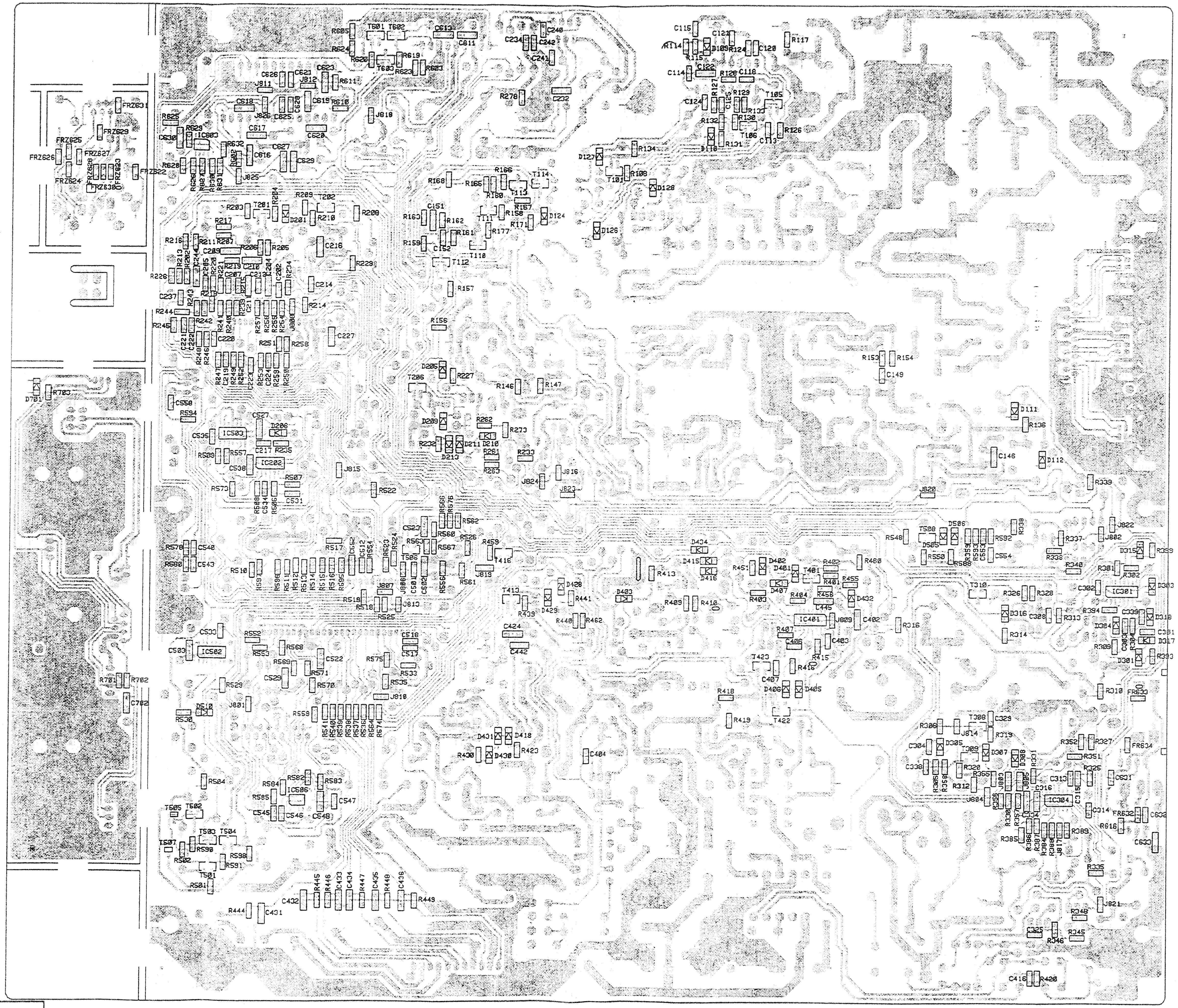
USB & AUDIO


QZ2
HEADPHONE
FRZ630
FRZ629
FRZ628
FRZ627
RZ2 464
CZ2 2u2
FRZ626
RZ1 464
CZ1 2u2
FRZ625
FRZ624
FRZ631
W601
QZ1
QZ3
EXT_MIC
FRZ623 QZ4
FRZ622
INT.MIC
R & L SPEAKERS
Q610
Q611
LEFT
RIGHT
Q612
Q613
10V
-13V
C610 1000U
C611 100n
R601 VALUE
C612 1000U
W603
C613 100n
IC602
TDA2615
LEFT
RIGHT
T603 BC847
R617 10K0
(1) AUDIO_MUTE
T602 BC847
R619 220k
10V
R618 100k
T601 BC847
R603 3k3
R623 10k
C614 220n
R605 3k3
R624 10k
C615 220n
C616 100n
R602 2k2
5V
R604 2k2
C617 100n
5V
C618 100n
C619 100n
5V
(5) SCL
(5) SDA
R622 470
R621 470
C620 100n
R620 10k
C621 8n2
IC601
LM4832
LEFT
RIGHT
AD1
AD2
R610 22k
C623 100n
R611 680k
C625 8n2
C626 8n2
C627 100n
C628 8n2
C622 220n
R632 10k
-13V
W602
C630 100n
LM358S IC603
GND
C629 100n
R631 10k
R630 10k
R629 10k
10V
R628 10k
C624 220n
R627 10k
R626 10k
LM358S IC603
R625 10k
Q618
Q619
RIGHT IN
Q614
FR634
C631 1n0
FR633
C632 1n0
LEFT IN
MIC.OUT
Q615
R616 2k2
FR632
Q621
Q620
L601 FJ0517
C633 470n
LGY6501
J602
SMA210
SMA212
Q601
DN3
DN2
Q602
DN5
DN4
Q603
UP
Q604
USB MODULE
SMY040
SMA211
SMA212
(5) SCL
(5) SDA
(5) COM_INTER
Q606
CERAMIC
POLYPROPYLENE
POLYESTHER POLYCARBONATE
1/4 W
1/2 W
1 W
2 W
<= 63 V
<= 160 V
<= 250 V
<= 500 V
<= 400 V
<= 1,5 kV

ECN
447G013

56011D


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
F101 T4.0A H 250V
S
SMA212D
SMA211D
SMA210D
SMA200D
SB5155D
D3136D
SMY045D
SMY046D
HEAT SINK
PCB EDGE
TCO
W301
H
A
PVM
KL
JT
PVM
KT
PVM
TT
PVM



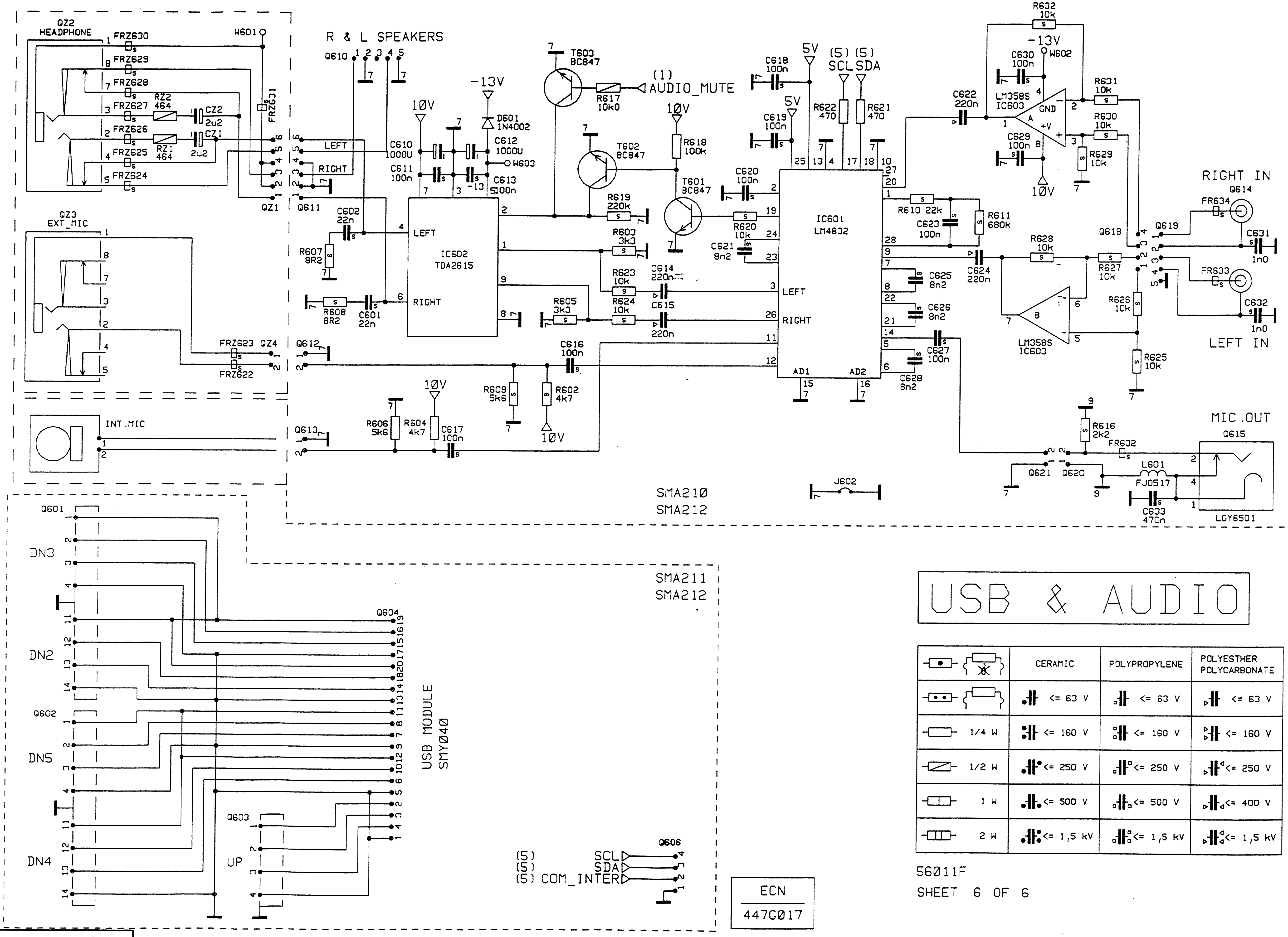
Part Number	Description	PG	Item Number	
SH1803	KONELAD.SMA229 SB5155			
SB5155	PCB 447G SMA203 FR3 2S 1P D3136			
AA0649	CF RES 0W25 100R J 2,5-7	1	RA 321 354 505	
AA0657	CF RES 0W25 220R J 2,5-7	1	RA 225 317 322	
AA0665	CF RES 0W25 470R J 2,5-7	1	RA 433 427 238 223	
AA0761	CF RES 0W25 4M7 J 2,5-7	1	RA 102 103 334	
AA0673	CF RES 0W25 1K0 J 2,5-7	1	RA 421 231 531 579 581	
AA0673	CF RES 0W25 1K0 J 2,5-7	1	RA 586	SMA203,211,229
AA0677	CF RES 0W25 1K5 J 2,5-7	1	RA 118 456	
AA0679	CF RES 0W25 1K8 J 2,5-7	1	RA 432	
AA0681	CF RES 0W25 2K2 J 2,5-7	1	RA 555 169	
AA0681	CF RES 0W25 2K2 J 2,5-7	1	RA 604	SMA210,212
AA0687	CF RES 0W25 3K9 J 2,5-7	1	RA 425	
AA0689	CF RES 0W25 4K7 J 2,5-7	1	RA 123 303 532 534 542 543 544 545 546	
AA0689	CF RES 0W25 4K7 J 2,5-7	1	RA 547 551 230	
AA0689	CF RES 0W25 4K7 J 2,5-7	1	FOL	SMA210,212
AA0697	CF RES 0W25 10K J 2,5-7	1	RA 224 311 333 164 565 558 212 589	
AA0699	CF RES 0W25 12K J 2,5-7	1	RA 453 452	
AA0701	CF RES 0W25 15K J 2,5-7	1	RA 406	
AA0705	CF RES 0W25 22K J 2,5-7	1	RA 549	
AA0715	CF RES 0W25 56K J 2,5-7	1	RA 175 176	
AA0721	CF RES 0W25 100K J 2,5-7	1	RA 172 237 174 618	
AA0725	CF RES 0W25 150K J 2,5-7	1	RA 324	
AA0729	CF RES 0W25 220K J 2,5-7	1	RA 173 414	
AA0737	CF RES 0W25 470K J 2,5-7	1	RA 503	
AA0755	CF RES 0W25 2M7 J 2,5-7	1	RA 390	
AA0757	CF RES 0W25 3M3 J 2,5-7	1	RA 111	
AA0937	CF RES 0W5 470K J 4-11	1	RA 104 105 106 107	
AB0585	NF RES 0W25 0R22 J 2,5-7 CF	1	RA 148 318	
AB0585	NF RES 0W25 0R22 J 2,5-7 CF	1	RA 151	SMA210,212
AB0593	NF RES 0W25 0R47 J 2,5-7 CF	1	RA 411	
AB0609	NF RES 0W25 2R2 J 2,5-7 CF	1	RA 281	
AB0617	NF RES 0W25 4R7 J 2,5-7 CF	1	RA 442 443	
AB0625	NF RES 0W25 10R J 2,5-7 CF	1	RA 222 408	
AB0633	NF RES 0W25 22R J 2,5-7 CF	1	RA 116	
AB0649	NF RES 0W25 100R J 2,5-7 CF	1	RA 125	
AB0795	NF RES 0W5 0R56 J 4-11 CF	2	RA 119 120	
AB0801	NF RES 0W5 1R0 J 4-11 CF	2	RA 424	
AB0805	NF RES 0W5 1R5 J 4-11 CF !	1	RA 121	
AC3292	CHIPRES 1K0 0W1 1% 0805	1	RA 273	
AC3366	CHIPRES 5K90 0W1 1% 0805	1	RA 518	
AC3405	CHIPRES 15K0 0W1 1% 0805	1	RA 566	
AC3411	CHIPRES 17K4 0W1 1% 0805	1	RA 567	
AC3421	CHIPRES 22K1 OW1 1% 0805	1	RA 255 259	
AC3444	CHIPRES 38K3 0W1 1% 0805	1	RA 254	
AC3460	CHIPRES 56K2 0W1 1% 0805	1	RA 250	
AC3616	CHIPRES 215K 0W1 1% 0805	1	RA 258	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA 801 802 820 821 822 806 807 808 809 810	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA 811 812 813 814 815 816 817 818 823	
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	1	JA 824 825 826	
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RA 211 410 419	
AC4433	CHIPRES 0W1 22R 5% 0805 2013	1	RA 278 309 310 316 441	
AC4441	CHIPRES 0W1 47R 5% 0805 2013	1	RA 583 584 585	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 146 305 339 340 444 445 446 447 448 449	
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RA 570 571	
AC4453	CHIPRES 0W1 150R 5% 0805 2013	1	RA 207	
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RA 153 154 407 529	
AC4461	CHIPRES 0W1 330R 5% 0805 2013	1	RA 134 439	
AC4465	CHIPRES 0W1 470R 5% 0805 2013	1	RA 167 168 229 423 703	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 171 131 162 594 210 326 327 337 430	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	RA 590 591 510 519 522 358 524 598 124	
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	1	FOL	
AC4475	CHIPRES 0W1 1K2 5% 0805 2013	1	RA 206 209	
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	1	RA 352 413	
AC4479	CHIPRES 0W1 1K8 5% 0805 2013	1	RA 161 217 440	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 117 314 462 508 514 557 306 165	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 166 561 501 338	
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RA 602 616	SMA210,212
AC4485	CHIPRES 0W1 3K3 5% 0805 2013	1	RA 552 553 320	
AC4485	CHIPRES 0W1 3K3 5% 0805 2013	1	RA 603 605	SMA210,212
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 701 205 213 249 304 313 409 506 507	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 511 512 513 515 516 530 535 556	
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RA 523 418 596	
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	1	RA 244 245 252 253	
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	1	FOL	SMA210,212
AC4493	CHIPRES 0W1 6K8 5% 0805 2013	1	RA 246 115 202	
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	1	RA 702 126	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 158 127 147 114 177 509 219 234 247 248	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 301 302 328 330 331 160 564 575 525	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 403 597 336 517 588 620 416 384 559	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 399 573 536 537 538 539 540 541	
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RA 623 624 625 626 627 628 629 630 631 632	SMA210,212
AC4499	CHIPRES 0W1 12K 5% 0805 2013	1	RA 208 214 220	
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RA 415 574 404	
AC4503	CHIPRES 0W1 18K 5% 0805 2013	1	RA 550	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 129 130 226 240 548 393 451 132 108	
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RA 610	SMA210,212
AC4507	CHIPRES 0W1 27K 5% 0805 2013	1	RA 241 242 243 256 257 401	

Part Number	Description	PG	Item Number	
AC4509	CHIPRES 0W1 33K 5% 0805 2013	1	RA 402 562 163 133 232 159	
AC4511	CHIPRES 0W1 39K 5% 0805 2013	1	RA 128 261 263	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RA 578 580 221 239 582 386 387 568 460 227	
AC4513	CHIPRES 0W1 47K 5% 0805 2013	1	RA 355 215 595 156 459 312	
AC4515	CHIPRES 0W1 56K 5% 0805 2013	1	RA 218 359	
AC4517	CHIPRES 0W1 68K 5% 0805 2013	1	RA 216	
AC4519	CHIPRES 0W1 82K 5% 0805 2013	1	RA 335 235	
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RA 504 502 526 351 563 455 456 554	
AC4523	CHIPRES 0W1 120K 5% 0805 2013	1	RA 203	
AC4529	CHIPRES 0W1 220K 5% 0805 2013	1	RA 262 593 619	
AC4533	CHIPRES 0W1 330K 5% 0805 2013	1	RA 576	
AC4537	CHIPRES 0W1 470K 5% 0805 2013	1	RA 157 319 394 560	
AC4541	CHIPRES 0W1 680K 5% 0805 2013	1	RA 611	SMA210,212
AC4539	CHIPRES 0W1 560K 5% 0805 2013	1	RA 204	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RA 233 356 357	
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RA 569	
AC4551	CHIPRES 0W1 1M8 5% 0805 2013	1	RA 325	
AC4553	CHIPRES 0W1 2M2 5% 0805 2013	1	RA 385 388 389	
AC4561	CHIPRES 0W1 4M7 5% 0805 2013	1	RA 136	
AC4569	CHIPRES 0W1 10M 5% 0805 2013	1	RA 533	
AC8691	CHIPRES 0W12 5K6 J 1206 3216		FOL	SMA210,212
AC8799	CHIPRES 0W12 0R0 JUMPER 1206	1	JA 803 804 805 819	
AD0373	COMPRES 0W5 1K0 K 4-11	1	RA 332	
AD0445	COMPRES 0W5 1M0 K 4-11	1	RA 101	
AG3101	MF RES 0W5 1R00 F TC200 2,5-7	1	RA 279 141	
AG3119	MF RES 0W5 1R54 F TC200 2,5-7	1	RA 142	
AG3165	MF RES 0W5 4R64 F TC200 2,5-7	1	RA 454	
AG3201	MF RES 0W5 10R0 F TC50 2,5-7	1	RA 341 461	
AG3233	MF RES 0W5 21R5 F TC50 2,5-7	1	RA 437	
AG3251	MF RES 0W5 33R2 F TC50 2,5-7	1	RA 422	
AG3265	MF RES 0W5 46R4 F TC50 2,5-7	1	RA 150 149 429 228	
AG3265	MF RES 0W5 46R4 F TC50 2,5-7	1	RA 152	SMA210,212
AG3301	MF RES 0W5 100R F TC50 2,5-7	1	RA 315	
AG3319	MF RES 0W5 154R F TC50 2,5-7	1	RA 138	
AG3343	MF RES 0W5 274R F TC50 2,5-7	1	RA 280	
AG3365	MF RES 0W5 464R F TC50 2,5-7	1	RA 143 135	
AG3365	MF RES 0W5 464R F TC50 2,5-7	1	RA 621 622	SMA210,212
AG3401	MF RES 0W5 1K00 F TC50 2,5-7	1	RA 329 144	
AG3465	MF RES 0W5 4K64 F TC50 2,5-7	1	RA 435 436 122	
AG3473	MF RES 0W5 5K62 F TC50 2,5-7	1	RA 272 277	
AG3489	MF RES 0W5 8K25 F TC50 2,5-7	1	RA 307	
AG3501	MF RES 0W5 10K0 F TC50 2,5-7	1	RA 617	SMA210,212
AG3509	MF RES 0W5 12K1 F TC50 2,5-7	1	RA 270 271	
AG3525	MF RES 0W5 17K8 F TC50 2,5-7	1	RA 260	
AG3557	MF RES 0W5 38K3 F TC50 2,5-7	1	RA 431 434	
AG3565	MF RES 0W5 46K4 F TC50 2,5-7	1	RA 308 587	
AG3589	MF RES 0W5 82K5 F TC50 2,5-7	1	RA 323 405	
AG3609	MF RES 0W5 121K F TC50 2,5-7	1	RA 145	
AG3657	MF RES 0W5 383K F TC50 2,5-7	1	RA 137 412	
AG3765	MF RES 0W5 4M64 F TC50 2,5-7	1	RA 110	
AJ2323	MO RES 2W0 1R5 J 6-17	1	RA 601	SMA212
AJ2443	MO RES 2W0 4R7 J 6-17	1	RA 417 428	
AJ2603	MO RES 2W0 22R J 6-17	2	RA 438	
AJ2763	MO RES 2W0 100R J 6-17	2	RA 426	
AJ2923	MO RES 2W0 470R J 6-17	2	RA 178	
AJ3003	MO RES 2W0 1K0 J 6-17	2	RA 139 140	
AJ3385	MO RES 4W0 39K J 9-22	2	RA 109	
AP0191	PMET 10K LIN EVJ02KFB6B14 CCLICK	10	PA 703 702	
AQ2219	TPMET.AA H10 47K RM 5X10 6-HOLE	3	RTA 301 401	
AQ2347	TPMET. H10 10K RM 5X10 6-HOLE	4	RTA 101	
AW0079	PTC-THERMISTOR 18R/25'C RM5	7	PTCA 001 002	
AW0111	NTC-THERMISTOR 5R0/25'C RM5+2,5	7	NTCA 001	
CA0322	CERCAP Y5P 2N2 K 1KV Y5: D10	2	CA 318	
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	2	CA 323 418	
CB3059	CHIPCAP NP0 220P G 50V 0805	2	CA 403	
CB0673	CERCAP N150 100P J 50V Y5: D9	1		SMA203,211,229
CB3129	CHIPCERCAP NP0 15P 50V J 0805	3	CA 517 518	
CB3133	CHIPCERCAP NP0 22P 50V J 0805	1	CA 339 533	
CB3141	CHIPCERCAP NP0 47P 50V J 0805	1	CA 545 531 546 406 547 407	
CB3145	CHIPCERCAP NP0 68P 50V J 0805	1	CA 302	
CB3151	CHIPCERCAP NP0 100P 50V J 0805	1	CA 118 301 303 313 534 240 241	
CB3155	CHIPCERCAP NP0 150P 50V J 0805	1	CA 535	
CB3163	CHIPCERCAP NP0 330P 50V J 0805	1	CA 121 314 501	
CB3171	CHIPCERCAP NP0 680P 50V J 0805	3	CA 212	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CA 120 217 237 242 308 315	
CB3175	CHIPCERCAP NP0 1N0 50V J 0805	3	CA 631 632	SMA210,212
CC0110	CERCAP Y5P 150P K 500V Y5: D8	1	CA 419	
CC0170	CERCAP Y5P 470P K 500V Y5: D8	1	CA 137	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CA 135 153 411	
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	1	CA 144	SMA210,212
CC0240	CERCAP Y5P 2N2 K 500V Y5: D9	1	CA 417 116	
CC0513	CERCAP Y5V 3N3 S 1KV Y7,5 D14	2	CA 105 106 107	
CC0530	CERCAP Z5U 4N7 S 500V Y5: D9	1	CA 140 420	
CC3240	CHIPCERCAP X7R 2N2 10% 50V 0805	1	CA 149 152	
CC3280	CHIPCERCAP X7R 4N7 10% 50V 0805	1	CA 234 338 125	
CC3310	CHIPCERCAP X7R 8N2 10% 50V 0805	1	CA 621 625 626 628	SMA210,212
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 115 113 205 214 219 220 221 222 223 224	
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA 304 329 404 512 202 124 543 114 540	

Part Number	Description	PG	Item Number		
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	1	CA	558	SMA211,.212,229
CC4320	CHIPCAP X7R 10N K 50V 1206	2	CA	204	
CC4400	CHIPCAP X7R 47N K 50V 1206	2	CA	210 211 502 523	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA	122 548 146 244 334 209 216 227 232 316	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA	151 702 402 424 431 432 445 538	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA	433 434 435 436 442 503 522 529 552	
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA	611 627 613 616 617 618 619 620 623	SMA210,212
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CA	629 630	SMA212
CC4895	CHIPCAP Y5V 470N Z 25V 1206	3	CA	633	SMA210,212
CE0083	X2-CAP 220N M 275VAC Y22,5	8	CA	102	
CE0116	Y-CAP 2N2 M 400VAC Y12,5 SDPJ16	4	CA	154 155	
CE0210	X2-CAP 100N M 250VAC Y15	5	CA	104	
CE0126	Y-CAP 4N7 M 400VAC Y12,5 SDPJ21	4	CA	101 103	
CE2034	IMPCAP 270P K 1K5V Y15 051118	4	CA	134 156	
CE2094	IMPCAP 820P K 1K5V Y15 061218	4	CA	307	
CE2196	IMPCAP 2N2 J 2KV Y22,5 061628	6	CA	414 413	
CE2801	IMPCAP 51N J 400V Y15 SING.MET		CA	439 425	
CE2802	IMPCAP 51N J 400V Y15 061418	3	CA	415	
CE2931	IMPCAP 100N J 250V Y15 081418	4	CA	426	
CE2933	IMPCAP 100N K 400V Y15 091518	4	CA	438 421	
CE3010	IMPCAP 200N J 250V Y22,5	6	CA	427	
CE3088	IMPCAP 400N J 250V Y22,5	7	CA	428	
CE3180	IMPCAP 800N J 250V Y22,5	10	CA	429	
CE3270	IMPCAP 1600N J 250V Y27,5	12	CA	430	
CG2665	PPRCAP KP 4N7 J 63V Y5: 060806	3	CA	119	
CK0163	PESCAP MKT 22N K 250V Y10 051113	2	CA	408 132	
CK0165	PESCAP MKT 22N K 630V Y10 061213	2	CA	110 111	
CK1388	PESCAP MKT 10N K 250V Y7,5 040911	2	CA	305 128	
CK2464	PESCAP MKT 22N K 63V Y5: 030708	2	CA	206 530	
CK2545	PESCAP 47N K 63V Y5: 030708	2	CA	312 218	
CK2626	PESCAP MKT 100N K 63V Y5: 030808	2	CA	336 410	
CK2663	PESCAP MKT 150N J 63V Y5: 040906	3	CA	225	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	3	CA	310	
CK2704	PESCAP MKT 220N K 63V Y5: 040908	3	CA	614 615 622 624	SMA210,212
CK0341	PESCAP MKT 220N K 100V Y10 051113	3	CA	233	
CK2784	PESCAP MKT 470N K 63V Y5: 051008	3	CA	228 322 555	
CN0095	ELCAP 330U M 385V RM10 30 X 45	18	CA	108	
CN0320	ELCAP 10U M 25V RM5: 8X8	2	CA	551 701	
CN0379	ELCAP' 22U M 100V RM5 :105'11*14	2	CA	157	
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CA	317 319 320 126 127 238	
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CA	157	SMA211
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	1	CA	311 549 123 405 514 147 526 444	
CN2037	ELCAP 10U M 160V RM5 105' 11X21	4	CA	422	
CN2029	ELCAP 4U7 M 100V RM5: 105' 6X12	3	CA	245	
CN2232	ELCAP' 4U7 M 200V RM5 105'10X20	4	CA	440	
CN2435	ELCAP 47U M 35V RM5: 105' 9X12	2	CA	148 143 208 226	
CN2461	ELCAP- 47U M 100V RM5 105, 10X16	4	CA	117	
CN2476	ELCAP 47U M 250V RM7,5 105'17X26	9	CA	130 129 447	
CN2523	ELCAP 100U M 25V RM5 :105' 9*14	3	CA	133 141 142	
CN2543	ELCAP 100U M 50V RM5 105 11X13	2	CA	215 401 230	
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	5	CA	131	
CN3250	ELCAP, 47U M 250V RM7,5 105'16X25	5	CA	306	
CN2553	ELCAP 0U47F M 50V RM5: 105' 6X12	1	CA	213 309	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	2	CA	423 556 505 506 507 508 509 510 511 513	
CN2563	ELCAP 2U2F M 50V RM5: 105'5X12MM	2	CA	528 520 521 201 235	
CN2566	ELCAP 4U7F M 50V RM5: 105'6X12MM	2	CA	203 333	
CN2575	ELCAP 22UF M 16V RM5: 105'6X13MM	1	CA	516	
CN2581	ELCAP 220U M 35V RM5 105 11X13	3	CA	229 231	
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	5	CA	136	
CN2749	ELCAP 2200U M 16V RM5 105 14X26	4	CA	150	
CN3150	ELCAP, 4U7 M 50V RM5 105'05 X11	1	CA	443 139	
CN3305	ELCAP, 100U M 25V RM5 105'07X16	4	CA	446	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA	412	
CN3402	ELCAP,1000U M 16V RM5 +105'13X34	12	CA	145 610 612	SMA210,212
CN3427	ELCAP,2200U M 25V RM7,5 105'16X25	5	CA	138	
FA4000	CHIP INDUCTOR 600OHM 200MA 0805	1	FRA	632 633 634	SMA210,212
FJ0448	CHOKE 13UH FERRITE 2X15	2	LA	104 105	
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LA	102 103 107 301	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	3	LA	101	
FJ0517	CHOKE 6.8UH 10% TAPED AXIAL	3	LA	601	SMA210,212
FJ0725	BEAD INDUCTOR MIN IMP360HM	2	FRA	401 402	
FJ0725	BEAD INDUCTOR MIN IMP360HM	2	FRA	621	SMA210
FJ0730	LEAD INDUCTOR 270UH 10%	5	LA	404	
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	3	MA	101	
FJ1809	INPUT CHOKE E30 2X9MH	13	MA	102	
FJ3000	INPUT CHOKE E25/7 972UH 445R	13	MA	404	
FM0641	FLYBACK TRAFO 30..96KHZ SAMS 447G		MA	301	
FM2573	DRIVER TRAFO E20/6 N67 447G	12	MA	401	
FM2560	DYNAMIC FOCUS TRAFO E20/6 445R	12	MA	403	
FM2566	CENTERING COIL E25/7 1.35MH 447S	10	MA	402	
FM3506	SMPS-TRAFO ETD49 N27 447G	19	MA	103	
FU0723	FIXED LIN.COIL W/DC-COIL N-S 447S	14	LA	402	
FU0724	FIXED LIN.COIL W/DC-COIL S-N 447S	14	LA	403	
JB0048	DI BY459/DTV82F 1500V 6A TO220FI	11	DA	411	
JB0047	DI GP30M 1000V 3A 3,0US DO201AD	4	DA	101 103 104 102	
JF0025	DI 1N4148 75V 200MA 4N	1	DA	314 506 125 107 208 302	
JF0025	DI 1N4148 75V 200MA 4N	1	DA	119	SMA211
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	4	DA	105 129	
JF0033	DI UF5404 400V 3A 50NS DO201AD	4	DA	409 115 116	
JF0034	DI UF5406 600V 3A 75N	9	DA	306	
JF0067	DI 1N4007 1000V 1A	1	DA	119	
JF0060	DI 1N4002 100V 1A	1	DA	207	
JF0062	DI BA159 1000V 400MA 500N	2	DA	426	
JF0072	DI BAV21 200V 250MA 50N	1	DA	108 204 117 212	
JF0073	DI RGP10G 400V 1A 150N	4	DA	412 414 417 419 420 421 422 423 424	
JF0073	DI RGP10G 400V 1A 150N	4	DA	425	
JF0074	DI RGP15J 600V 1.5A 250N	4	DA	113	
JF0096	DI BYV28-100 100V 3.5A 30N	7	DA	408	
JF0104	DI BYV27-200 200V 2A 25N SOD57	8	DA	433	
JF0104	DI BYV27-200 200V 2A 25N SOD57	8	DA	121	SMA210,212
JF0106	DI UF2D-7000 200V 2A 50N MUOVI	3	DA	106 122 123	
JF0168	DIODE BYW98-200 200V 3A DO-27A !	4	DA	404 118	
JF0206	SCHOTTKY RECTIFIER 30V 1A 1N5818	4	DA	202 203	
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DA	213 128	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	210 110 109 111 112 124 211 701 434	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	505 506 206 209 126 127 201 205 301 303	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	304 305 403 315 316 317 318 401 402 405	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	406 407 415 416 418 428 429 510	
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DA	307 308 430 431 432	
JH0054	ZDI BZX83C12 12V 0.5W 5%	1	DZA	301 401 402	
JH0059	ZDI BZX83C8V2 8.2V 0.5W 5%	1	DZA	101	
JH0085	ZDI BZX83C22 22V 0.5W 5%	1	DZA	201	
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	DZA	502	
JH0087	ZDI BZX83C5V1 5.1V 0.5W 5%	1	DZA	501	
JH0095	ZDI BZX79B12 12V 0,5W 2%	3	DZA	102	
JH4109	ZDI BZX84C5V1 0.225W 5% SOT-23	3	DZA	504	
JL0058	LED DUALCOLOR RED/GREEN 3 MM	4	LED	701	
JL0069	OPTOCOUPLER VRMS 5KV	4	ICA	106 107	
JM0099	TR BC547B N 45V 100A 200M:	1	TA	301 305 307 402	
JM0100	TR BC557B P 45V 100A 200M:	1	TA	302 306 403 425	
JM0202	TR MPSA44 N 400V 300MA TO92	3	TA	116	
JM0205	TR BF423 P 250V 25MA 60M:	3	TA	108 404	
JM0239	TR BC638 P 60V 1A 50M:	4	TA	317 103	
JM0227	TR MPS2369 N 15V 200MA 500M	3	TA	204	
JM0244	TR BF422 N 250V 25MA 60M:	2	TA	311 408 412	
JM0252	TR BC639-10 N 100V 1.5A TO92	3	TA	318 421	
JM0273	TR 2N5551 NPN 160V 0,6A	2	TA	203 205 104	
JM0280	TR 2N5401 P 150V 0.6A 100M	2	TA	409	
JM0334	TR BD135 NPN 45V 1A5 250MHZ TO126	4	TA	411	
JM0335	TR BD136 PNP 45V 1A5 250MHZ TO126	4	TA	414	
JM0341	TR BUH1215(435B) N 1500V 19ATO218	19	TA	407	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA	111 201 206 110 508 416 502 601 602 603	
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA	309 401 413 422 101	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA	501 105 113 106 202 308 310 423 114	
JM4114	TR BC857B P 45V 100MA 150M:	2	TA	112 504 503 506	
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	2	TA	505 507	
JS0071	FET IRFIBC40G N 600V 3.5A 1.2R		TA	102	
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA	406	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA	303	
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA	405	
JS0030	FET IRF620 200V 5A 0.8R TO-220	7	TA	415	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	109	
JS0035	FET IRF820 N 500V 2.5A 3.0R	10	TA	115	SMA211
JS0063	FET IRFIBE30G N 800V 2,1A 3R0 220	23	TA	304	
JS1006	FET BS170 N 60V 500MA	10	TA	107	
JS2001	FETARRAY SLA5038 N 5X150V 7A 0R23	21	ICA	402	
JZ0005	SILICONE INSUL PAD 19*13*0.22MM	1			
JZ0005	SILICONE INSUL PAD 19*13*0.22MM	1	ICA	104	
JZ0005	SILICONE INSUL PAD 19*13*0.22MM	1	ICA	203	
JZ0005	SILICONE INSUL PAD 19*13*0.22MM	1	TA	109	
JZ0010	SILICONE INSUL 20*25*0.22MM	8	TA	407	
JZ0012	SILICONE INSUL 22*30*0.22MM	4	ICA	602	SMA210,212
LM0067	IC UA7805UC +5V REGULATOR TO-220	13	ICA	102	
LM0455	IC LM358N DUAL OP-AMP DIL-8	11	ICA	302	
LM0603	IC LM2940CT LOW DROP REG.5V TO220	8	ICA	104	
LM0967	IC SI-3120FA 12V LOWDROP REG 2%	9	ICA	103	
LM0930	IC STV9379 VERT.DEFL.BOOSTER	14	ICA	203	
LM0937	IC TDA9105 DEFLECTION PROCESSOR	20	ICA	201	
LM0938	IC ST72E72 MONITOR UC,DDC DIP-56	34	ICA	501	SMA211,212,229
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	6	ICA	105 508	
LM0945	IC 24C64 SERIAL EEPROM 8X8K DIP-8	16	ICA	504	
LM0959	IC L4990 PRIMARY CONTROLLER DIP16	10	ICA	101	
LM0974	IC LM4832N BOOMER DIL28	18	ICA	601	SMA210,212
LM0975	IC TDA2615 AUDIO POWER AMP SOT110	13	ICA	602	SMA210,212
LM0984	IC ST7272 8-BIT MCU 24K ROM 447G		ICA	501	SMA203,210
LM4017	IC 74HCT02 QUAD 2-INPUT NOR SO-14	4	ICA	502	
LM4022	IC 74HCT74 DUAL D-FLIP-FLOP SO-14	4	ICA	503	
LM4111	IC 4538BT	5	ICA	301 401	
LM4208	IC 74HC86 2-INPUT EXCL. OR SO-14	4	ICA	202	
LM4406	IC LM324 QUAD OP-AMP SO-14	4	ICA	304	
LM4420	IC DUAL MODE EEPROM FOR DDC 2.0	12	ICA	506	SMA203,210,211,212
LM4428	IC LM358D DUAL OP AMP SO-8	5	ICA	603	SMA210,212
LZ0003	IC-SOCKET 8-POLE DIL SINGLE LEAF	1	ICA	504	SMA211,212,229
LZ0063	IC-SOCKET 56-POLE DUAL LEAF 1.78	10	ICA	501	SMA211,212,229
QA0095	CRYSTAL 8,00 MHZ HC-49/U	7	XA	501	
QG0329	MINIATURE PUSH SWITCH 0.1A 24VDC	8	SWA	701	

Part Number	Description	PG	Item Number	
QG0401	ENCODER 20PULSE/ 360' WITH SWITCH	15	PA 701	
QH0068	RELAY PCB-MOUNT 12V 5A/250V DPDT	13	REA 101	
QK1222	ROW CONN 1X02 2,5 VERT STG LOCK	2	QA 613	SMA210,212
QK1223	ROW CONN 1X03 2,5 VERT STG LOCK	2	QA 103	SMA211,212
QK1225	ROW CONN 1X05 2,5 VERT STG LOCK	2	QA 610	SMA210,212
QK1285	ROW CONN 1X05 5,08/7,62 VERT/LOCK	2	QA 102	
QK1415	CRIPLET CONN FOR 2-SIDED PCB	1	QA	
QK1464	"ROW CONN ""JST"" 1X03 2,5 VERT"	3	QA 301	
QK1494	CONN PLUG FOR DY W-P3005-01	3	QA 201	
QK1495	CONN PLUG FOR DY CM16506-0101	3	QA 401	
QK1587	COOLING & SUPP.PART FOR RESISTOR	1	RA 109 109	
QK1599	COOLING & SUPP.PART FOR RES L12MM	1	NTCA 001 001	
QK1650	MAINS CONN MALE 90DEG W/PCB SNAPS	8	QA 101	
QK1675	SOLDER SUPPORT FOR CABLE 2-POS	2	QA 621	SMA212
QK1694	RCA JACK UNIT 2X6.3MM R/W PCB90	8	QA 614	SMA212
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QA 503	
QK1702	PICOFLEX HEADER 1X06 1,27MM	3	QA 611	SMA210,212
QK1703	PICOFLEX HEADER 1X08 1,27MM	3	QA 504	
QK1712	PIN JACK 3,6MM MONO H=6,5MM	3	QA 615	SMA210,212
QK1713	USB CONN SERIE-A DOUBLE STACKED	11	QA 601 602	SMA210,212
QK1714	USB CONN SERIE-B	7	QA 603	SMA210,212
QM1001	PICOFLEX ASSY BI-IDC 8-POS 150MM	8	QA 701	
QM1013	PICOFLEX ASSY BI-IDC 10-POS 400MM	10	QA 202	
QM1025	PICOFLEX ASSY BI-IDC 6-POS 250MM	7	QZ 001	SMA210,212
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	GLA 302 303	
QM1019	PICOFLEX ASSY BI-IDC 16-POS 420MM	11	QA 502	
QM1029	PICOFLEX ASSY BI-IDT 20POS 100MM	10	QA 604	SMA211,212
QM1030	PICOFLEX ASSY BI-IDC 4-POS 350MM	8	QZ 702	
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	1	FA 101 101	
QT0207	GLIMM LAMP 95V 6*12,5MM	4	GLA 301	
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	4	FA 102 103	
QT0776	FUSE 5*20MM T 4.0A 250V 1500A	3	FA 101	
SE2185	GROUNDING WIRE 7752	3	WA 101	
QK1035	CABLE SHOE 160101-2	2		
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1		
SE1342	WIRE E09628602--0	1		SMA210,212
SE2601	GROUNDING WIRE 449M	3	WA 601	SMA210,211,212
SE2627	MIKROFONE WIRE 447K	9		SMA210,212
SE2651	GROUNDING WIRE 445R	6		
SE2738	VIDEO CABLE 447G			SMA210,212
SE2741	AUDIO CABLE 447G		QA 618 619	SMA210
QK1571	GROUNDING SHEET CONN.		002	
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	1	003	
SE2679	GROUNDING WIRE 447S	3	WA 301	
QK1446	WIRE TERMINAL FOR 1,85MM HOLES	1	003	
QK1651	"BLADE CONNECTOR ""MIKROLOK"" 6,3MM"	1	002	
UC0859	FASTENING SPRING PN44473	1	TA 303 304 405 109	
UC0859	FASTENING SPRING PN44473	1	ICA 104 103	

Part Number	Description	PG	Item Number	
UC1140	COOLING PLATE COPPER PN45154	3	TA 303 304 405 109	
UC1140	COOLING PLATE COPPER PN45154	3	ICA 104 103	
UC6551	FASTENING SPRING	3	ICA 203	
UC6551	FASTENING SPRING	3	DA 411	
UC6551	FASTENING SPRING	3	TA 102	
UC6552	FASTENING SPRING	3	TA 407	
UC6552	FASTENING SPRING	3	ICA 602	SMA210,212
UC6752	WASHER 447E	1		
UC6859	COOLING PLATE 447S	9	TA 407	
UC6859	COOLING PLATE 447S	9	DA 411	
UC6859	COOLING PLATE 447S	9	ICA 402	
UC6860	COOLING PLATE 447S	9		
UC6861	COOLING PLATE 447S	9		
UC6862	FAST.SPRING 447S	2	ICA 402	
UC6907	CONN.PANEL 447Z	9		
UC6863	CONNECT.PANEL USB	9		SMA211,212
UC6864	SUPPORT 447S	4		
UC6865	FRONT SUPPORT 447S	4		
UC6886	INTERF.SHIELD 447S	2		
UC6887	GROUND.SPRING 447G			SMA211,212
UC6907	CONN.PANEL 447Z	9		SMA203,210,229
UC6990	V_LIPALA 447G		ICA 602	SMA210,212
UCX012	COOLING PLATE ASSEMBLY JF0166	5	DA 114	
UCX015	COOLING PLATE ASSEMBLY JF0168	5	DA 120	
UCX016	UC6860+UC6861+UG1001+WC0450	5	TA 102	SMA211
UCX016	UC6860+UC6861+UG1001+WC0450	5	ICA 203	SMA211
JF0166	DIODE BYM26C 600V 2.3A SOD-64	4		
JF0168	DIODE BYW98-200 200V 3A DO-27A !	4		
UG1016	INSULATOR LOCKABLE PN40421	1		
UJ0125	TIES SST 1 M	1		
UJ0217	EDGE HOLD.WIRE EHWSE	3		
UJ0134	TIES BLU PN42813 SIN.	2		
UJ0220	TIES PN200945 445G	5		
UG0770	TIES 11X20MM	2		
UG0812	INSULATOR PN30068 445R	4		
UG0814	INSULATOR PN30084 447K	6		
UG1002	MINI SUPPORT POST MSPM-8-01	3		SMA211
UG1027	MINI SUPPORT POST MSPM-24-01			SMA211,212
WA0749	M4X8 DIN962 DIN269 8.8	1		
WL0217	WASHER 4,3 ST DIN6798A	1		
XW0032	DOW CORNING	32	TA 407 109 405 304 303	
XW0032	DOW CORNING	32	ICA 402 203 104 103	
XW0032	DOW CORNING	32	DA 411	
WC0036	UNI6950 SCREW	1		
WC0450	KKL HEXAGON+TORX10 3,9X16 ZN	1	032	
WC0446	SCREW_ 2,9X8 FE/ZN	1		
WC0532	PT-SCREW WN1447 K40X14 TORX10YELL	1		SMA211
WN0169	POP-RIW AD 44	1		


QZ2
HEADPHONE
FRZ630
FRZ629
FRZ628
FRZ627
FRZ626
FRZ625
FRZ624
FRZ631
RZ2 464
RZ1 464
CZ2 2u2
CZ1 2u2
W601
QZ1
QZ3
EXT_MIC
FRZ623 QZ4
FRZ622
INT.MIC
R & L SPEAKERS
Q610
Q611
LEFT
RIGHT
Q612
Q613
C610 1000U
C611 100n
C612 1000U
C613 100n
D601 1N4002
W603
-13V
10V
C602 22n
R607 8R2
R608 8R2
C601 22n
IC602
TDA2615
LEFT
RIGHT
T603 BC847
T602 BC847
T601 BC847
R617 10k0
(1) AUDIO_MUTE
R618 100k
R619 220k
R603 3k3
R605 3k3
R623 10k
R624 10k
C614 220n
C615 220n
R620 10k
C621 8n2
C618 100n
C619 100n
C620 100n
5V
(5) SCL
(5) SDA
R622 470
R621 470
IC601
LM4832
LEFT
RIGHT
AD1
AD2
C616 100n
R609 5k6
R602 4k7
R606 5k6
R604 4k7
C617 100n
R610 22k
C623 100n
R611 680k
C625 8n2
C626 8n2
C627 100n
C628 8n2
C622 220n
R632 10k
C630 100n
W602
LM358S
IC603
GND
C629 100n
R631 10k
R630 10k
R629 10k
R628 10k
C624 220n
R627 10k
R626 10k
R625 10k
B
Q618
Q619
RIGHT IN
Q614
FR634
C631 1n0
FR633
C632 1n0
LEFT IN
MIC.OUT
Q615
R616 2k2
FR632
Q621
Q620
L601
FJ0517
C633 470n
LGY6501
J602
SMA210
SMA212
Q601
DN3
DN2
Q602
DN5
DN4
Q603
UP
Q604
USB MODULE
SMY040
SMA211
SMA212
Q606
(5) SCL
(5) SDA
(5) COM_INTER

USB & AUDIO

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

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SHEET 6 OF 6

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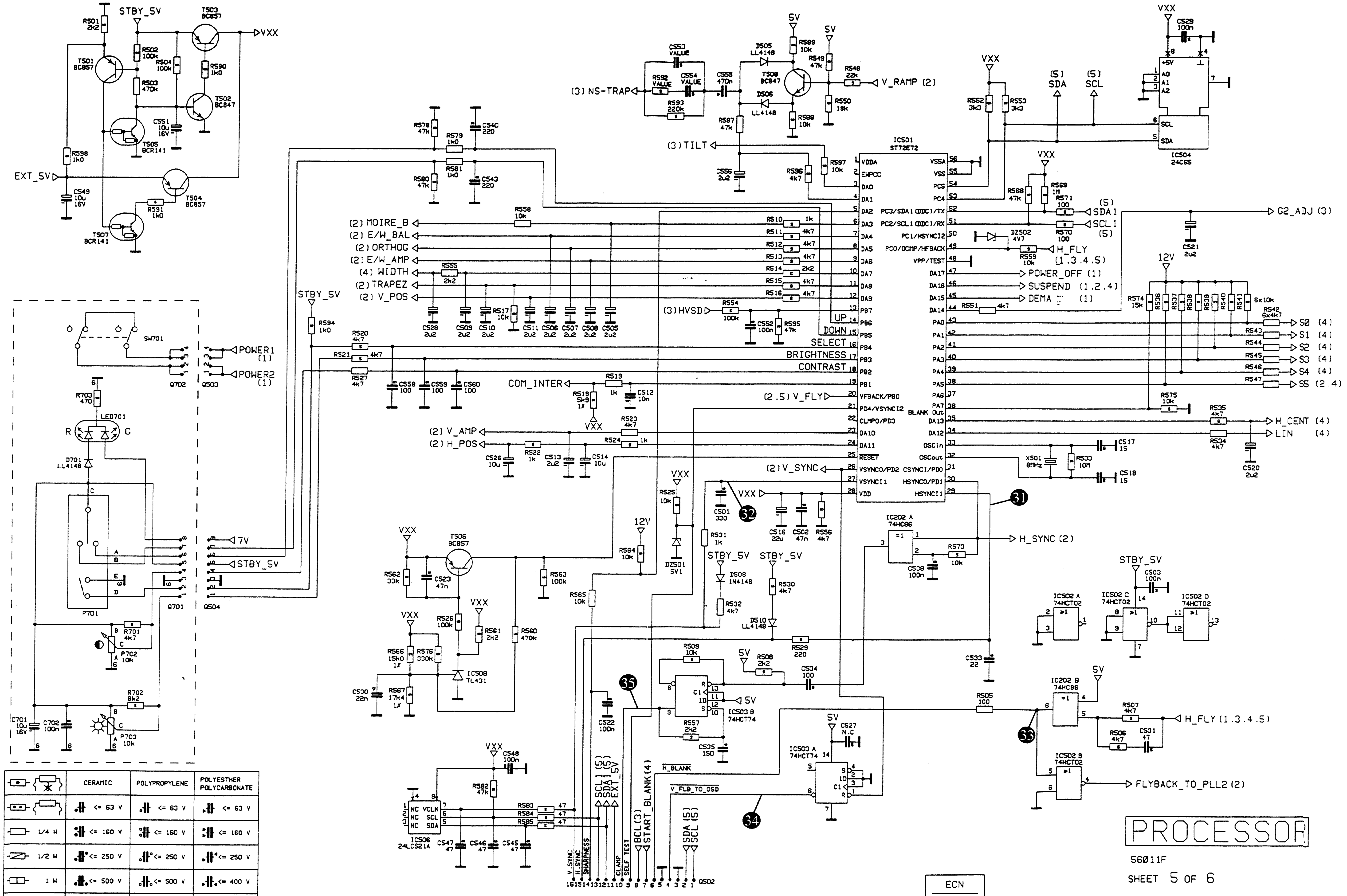
447G


STBY_5V
VXX
EXT_5V
R501 2k2
R502 100k
R503 470k
R504 100k
R590 1k0
R598 1k0
R591 1k0
C549 10u 16V
C551 10u 16V
T501 BC857
T502 BC847
T503 BC857
T504 BC857
T505 BCR141
T507 BCR141
(3) NS-TRAP
C553 VALUE
R592 VALUE
C554 VALUE
R593 220k
C555 470n
D505 LL4148
D506 LL4148
T508 BC847
5V
R589 10k
R549 47k
R548 22k
V_RAMP (2)
R550 18k
R588 10k
R587 47k
(3) TILT
C556 2u2
R596 4k7
R597 10k
R578 47k
R579 1k0
C540 220
R580 47k
R581 1k0
C543 220
R558 10k
(2) MOIRE_B
(2) E/W_BAL
(2) ORTHOG
(2) E/W_AMP
(4) WIDTH
(2) TRAPEZ
(2) V_POS
R555 2k2
C528 2u2
C509 2u2
C510 2u2
R517 10k
C511 2u2
C506 2u2
C507 2u2
C508 2u2
C505 2u2
R510 1k
R511 4k7
R512 4k7
R513 4k7
R514 2k2
R515 4k7
R516 4k7
(3) HVSD
R554 100k
C552 100n
R595 47k
UP
DOWN
SELECT
BRIGHTNESS
CONTRAST
R594 1k0
R520 4k7
R521 4k7
R527 4k7
C558 100
C559 100
C560 100
COM_INTER
R519 1k
R518 5k9 1%
C512 10n
(2.5) V_FLY
(2) V_AMP
(2) H_POS
R523 4k7
R524 1k
C526 10u
R522 1k
C513 2u2
C514 10u
(2) V_SYNC
IC501 ST72E72
VDDA
EWPCC
DA0
DA1
DA2
DA3
DA4
DA5
DA6
DA7
DA8
DA9
PB7
PB6
PB5
PB4
PB3
PB2
PB1
VFBACK/PB0
PD4/VSYNCI2
CLMPO/PD3
DA10
DA11
RESET
VSYNCO/PD2
VSYNCI1
VDD
VSSA
VSS
PC5
PC4
PC3/SDA1 (DDC)/TX
PC2/SCL1 (DDC)/RX
PC1/HSYNCI2
PC0/OCMP/HFBACK
VPP/TEST
DA17
DA16
DA15
DA14
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
BLANK Out
DA13
DA12
OSCin
OSCout
CSYNCI/PD0
HSYNCO/PD1
HSYNCI1
R552 3k3
R553 3k3
(5) SDA
(5) SCL
C529 100n
+5V
A0
A1
A2
SCL
SDA
IC504 24C65
R568 47k
R569 1M
R571 100
R570 100
(5) SDA1
SCL1 (5)
G2_ADJ (3)
C521 2u2
DZ502 4V7
R559 10k
H_FLY (1.3.4.5)
POWER_OFF (1)
SUSPEND (1.2.4)
DEMA (1)
R551 4k7
12V
R574 15k
R536
R537
R538
R539
R540
R541
6x10k
R542 6x4k7
R543
R544
R545
R546
R547
S0 (4)
S1 (4)
S2 (4)
S3 (4)
S4 (4)
S5 (2.4)
R575 10k
R535 4k7
R534 4k7
H_CENT (4)
LIN (4)
C520 2u2
C517 15
C518 15
X501 8MHz
R533 10M
31
32
33
34
35
R525 10k
DZ501 5V1
C501 330
C516 22u
C502 47n
R556 4k7
IC202 A 74HC86
=1
R573 10k
C538 100n
H_SYNC (2)
SW701
POWER1 (1)
POWER2 (1)
Q702
Q503
R703 470
LED701
R
G
D701 LL4148
P701
7V
Q701
Q504
R701 4k7
P702 10k
R702 8k2
P703 10k
C701 10u 16V
C702 100n
T506 BC857
R562 33k
C523 47n
R563 100k
R564 10k
R565 10k
R526 100k
R561 2k2
R560 470k
R566 15k0 1%
R576 330k
IC508 TL431
C530 22n
R567 17k4 1%
R531 1k
D508 1N4148
R532 4k7
R530 4k7
D510 LL4148
R529 220
C533 22
IC502 A 74HCT02
IC502 C 74HCT02
IC502 D 74HCT02
C503 100n
≥1
R509 10k
R508 2k2
C534 100
IC503 B 74HCT74
R557 2k2
C535 150
C522 100n
IC503 A 74HCT74
C527 N.C
H_BLANK
V_FLB_TO_OSD
IC202 B 74HC86
R505 100
R507 4k7
R506 4k7
C531 47
IC502 B 74HCT02
FLYBACK_TO_PLL2 (2)
C548 100n
R582 47k
R583 47
R584 47
R585 47
IC506 24LCS21A
NC
VCLK
C547 47
C546 47
C545 47
SCL1 (5)
SDA1 (5)
EXT_5V
V.SYNC
H.SYNC
SHARPNESS
CLAMP
SELF TEST
BCL (3)
START_BLANK (4)
SDA (5)
SCL (5)
Q502

▭	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
▭	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

PROCESSOR

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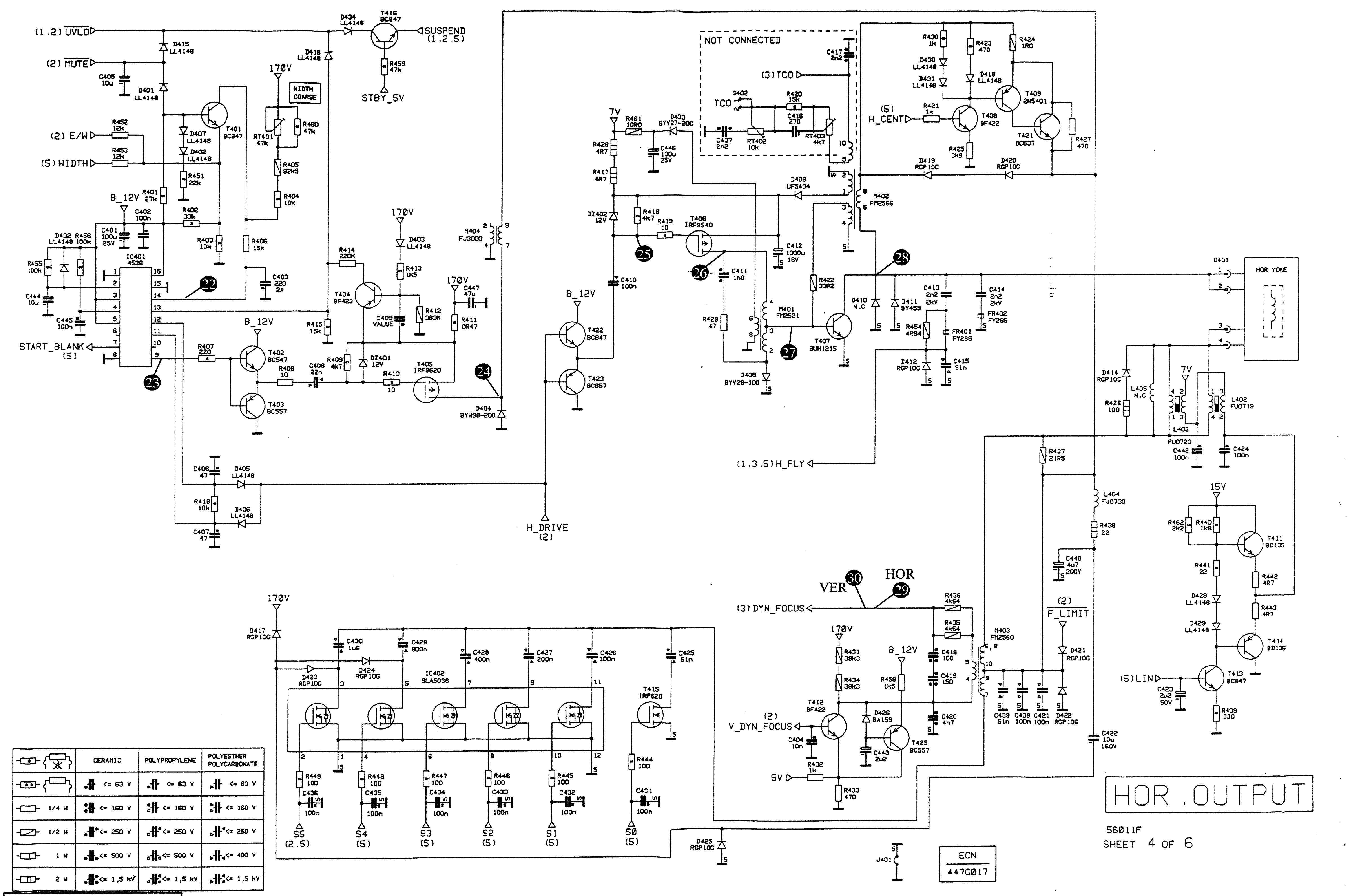
(1.2) UVLO
(2) MUTE
(2) E/W
(5) WIDTH
B_12V
START_BLANK (5)
SUSPEND (1.2.5)
STBY_5V
170V
WIDTH COARSE
IC401 4538
IC402 SLA5038
T416 BC847
T401 BC847
T402 BC547
T403 BC557
T404 BF423
T405 IRF9620
T406 IRF9540
T407 BUH1215
T408 BF422
T409 2N5401
T411 BD135
T412 BF422
T413 BC847
T414 BD135
T415 IRF620
T421 BC637
T422 BC847
T423 BC857
T425 BC557
M401 FM2521
M402 FM2566
M403 FM2560
M404 FJ3000
L402 FU0719
L403 FU0720
L404 FJ0730
L405 N.C
FR401 FY266
FR402 FY266
7V
15V
5V
NOT CONNECTED
(3) TCO
TCO
Q402
(5) H_CENT
(1.3.5) H_FLY
H_DRIVE (2)
HOR YOKE
Q401
(3) DYN_FOCUS
(2) V_DYN_FOCUS
(2) F_LIMIT
(5) LIN
VER
HOR
S5 (2.5)
S4 (5)
S3 (5)
S2 (5)
S1 (5)
S0 (5)
J401
22
23
24
25
26
27
28
29
30

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

ECN
447G017

HOR.OUTPUT

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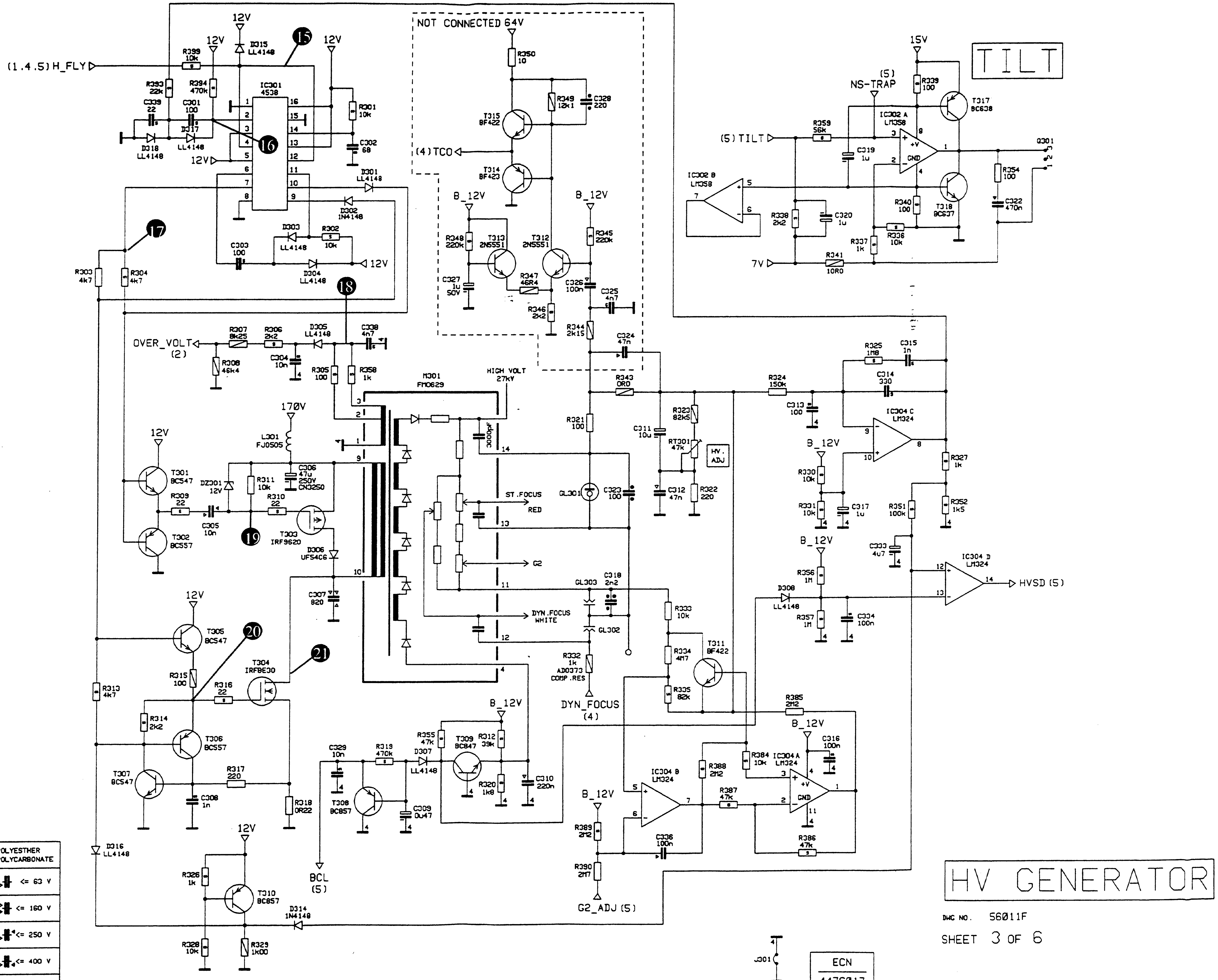
447G


(1.4.5)H_FLY
12V
D315 LL4148
R399 10k
R393 22k
R394 470k
C339 22
C301 100
D317 LL4148
D318 LL4148
IC301 4538
R301 10k
C302 68
12V
D301 LL4148
D302 1N4148
D303 LL4148
R302 10k
C303 100
D304 LL4148
R303 4k7
R304 4k7
OVER_VOLT (2)
R307 8k25
R306 2k2
D305 LL4148
C338 4n7
R308 46k4
C304 10n
R305 100
R358 1k
170V
L301 FJ0505
C306 47u 250V CK3250
DZ301 12V
R311 10k
T301 BC547
T302 BC557
R309 22
C305 10n
R310 22
T303 IRF9620
D306 UF54C6
C307 820
M301 FM0629
HIGH VOLT 27kV
3000pF
ST.FOCUS RED
G2
DYN.FOCUS WHITE
T305 BC547
R315 100
R316 22
T304 IRFBE30
R314 2k2
T306 BC557
T307 BC547
R317 220
C308 1n
R318 0R22
R313 4k7
D316 LL4148
R326 1k
T310 BC857
D314 1N4148
R328 10k
R329 1k00
C329 10n
R319 470k
D307 LL4148
T308 BC857
C309 0u47
R355 47k
T309 BC847
R312 39k
R320 1k8
C310 220n
BCL (5)
NOT CONNECTED 64V
R350 10
R349 12k1
C328 220
T315 BF422
(4)TCO
T314 BF423
B_12V
R348 220k
T313 2N5551
T312 2N5551
R345 220k
C327 1u 50V
R347 46R4
C326 100n
C325 4n7
R346 2k2
R344 2k15
C324 47n
R343 0R0
R321 100
GL301
C323 100
C311 10u
R323 82k5
RT301 47k
HV. ADJ
C312 47n
R322 220
GL303
C318 2n2
GL302
R333 10k
R334 4M7
T311 BF422
R335 82k
R332 1k AD0373 COMP.RES
DYN_FOCUS (4)
R385 2M2
IC304 B LM324
R388 2M2
R384 10k
IC304 A LM324
C316 100n
R387 47k
R386 47k
C336 100n
R389 2M2
R390 2M7
G2_ADJ (5)
R324 150k
C313 100
R325 1M8
C315 1n
C314 330
IC304 C LM324
R330 10k
R331 10k
C317 1u
R327 1k
R351 100k
R352 1k5
C333 4u7
R356 1M
D308 LL4148
R357 1M
C334 100n
IC304 D LM324
HVSD (5)
TILT
15V
(5) NS-TRAP
R339 100
T317 BC638
IC302 A LM358
R359 56k
(5) TILT
C319 1u
R354 100
C322 470n
IC302 B LM358
R338 2k2
C320 1u
R340 100
T318 BC637
R336 10k
R337 1k
7V
R341 10R0
J301
⑮
⑯
⑰
⑱
⑲
⑳
㉑

		CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
		<= 63 V	<= 63 V	<= 63 V
	1/4 W	<= 160 V	<= 160 V	<= 160 V
	1/2 W	<= 250 V	<= 250 V	<= 250 V
	1 W	<= 500 V	<= 500 V	<= 400 V
	2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

HV GENERATOR

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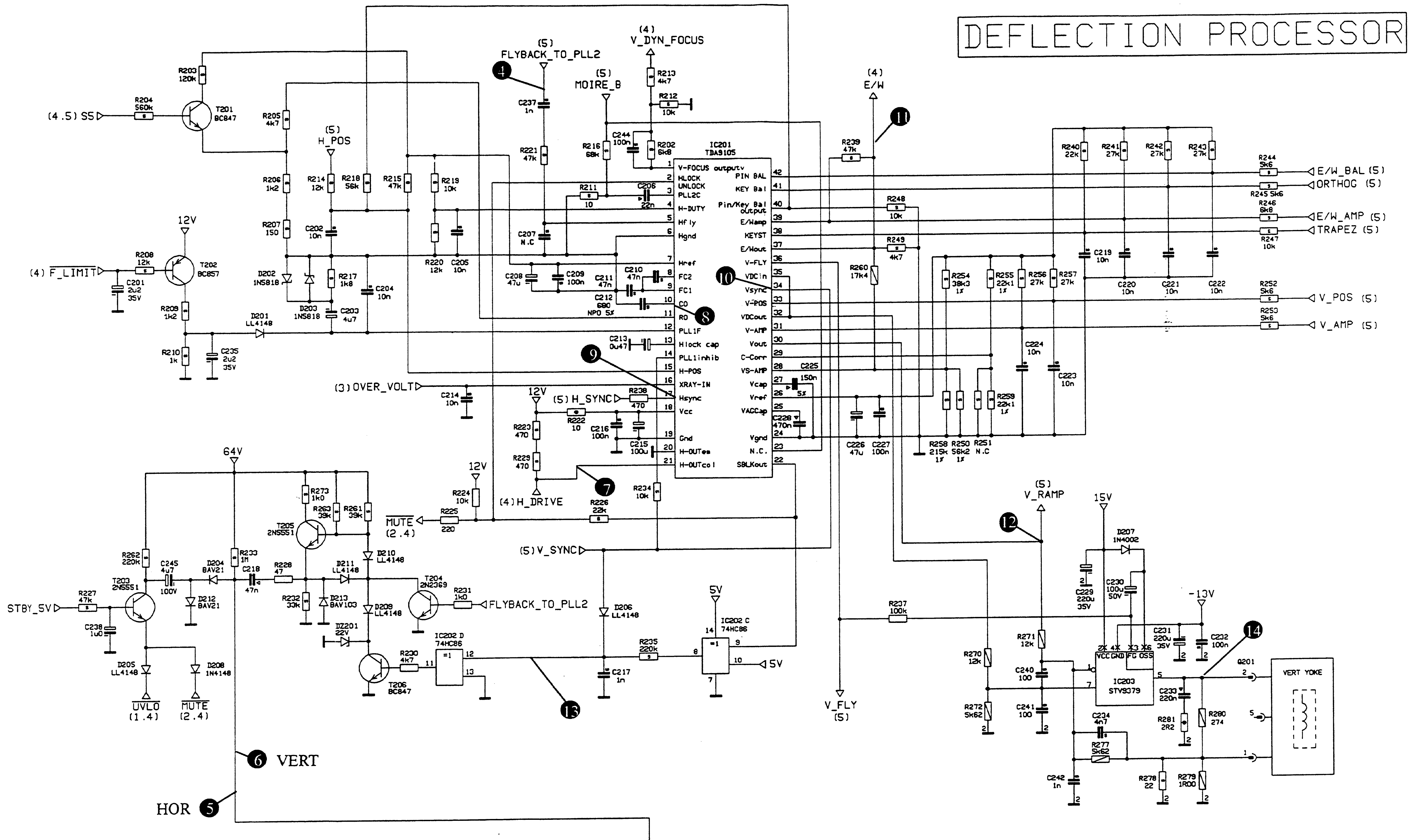
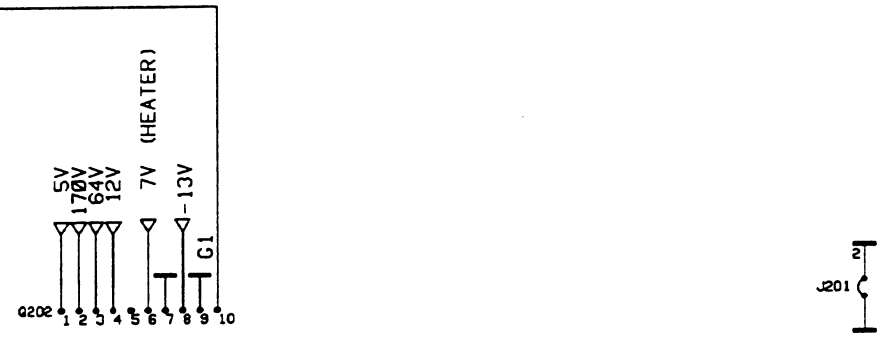
DEFLECTION PROCESSOR


IC201 TDA9105
1 V-FOCUS outputV
2 HLOCK UNLOCK
3 PLL2C
4 H-DUTY
5 Hfly
6 Hgnd
7 Href
8 FC2
9 FC1
10 CO
11 RO
12 PLL1F
13 Hlock cap
14 PLL1inhib
15 H-POS
16 XRAY-IN
17 Hsync
18 Vcc
19 Gnd
20 H-OUTem
21 H-OUTcol
42 PIN BAL
41 KEY Bal
40 Pin/Key Bal output
39 E/Wamp
38 KEYST
37 E/Hout
36 V-FLY
35 VDCin
34 Vsync
33 V-POS
32 VDCout
31 V-AMP
30 Vout
29 C-Corr
28 VS-AMP
27 Vcap
26 Vref
25 VACCap
24 Vgnd
23 N.C.
22 SBLKout
(5) FLYBACK_TO_PLL2
(4) V_DYN_FOCUS
(5) MOIRE_B
(4) E/W
(4.5) SS
(5) H_POS
12V
(4) F_LIMIT
(3) OVER_VOLT
(5) H_SYNC
(4) H_DRIVE
MUTE (2.4)
(5) V_SYNC
64V
STBY_5V
UVLO (1.4)
MUTE (2.4)
FLYBACK_TO_PLL2
5V
E/W_BAL (5)
ORTHOG (5)
E/W_AMP (5)
TRAPEZ (5)
V_POS (5)
V_AMP (5)
V_FLY (5)
(5) V_RAMP
15V
-13V
VERT YOKE
IC203 STV9379
VCC GND FG OSS
IC202 C 74HC86
IC202 D 74HC86
T201 BC847
T202 BC857
T203 2N5551
T204 2N2369
T205 2N5551
T206 BC847
R203 120k
R204 560k
R205 4k7
R206 1k2
R207 150
R208 12k
R209 1k2
R210 1k
R211 10
R212 10k
R213 4k7
R214 12k
R215 47k
R216 68k
R217 1k8
R218 56k
R219 10k
R220 12k
R221 47k
R222 10
R223 470
R224 10k
R225 220
R226 22k
R227 47k
R228 47
R229 470
R230 4k7
R231 1k0
R232 33k
R233 1M
R234 10k
R235 220k
R237 100k
R238 470
R239 47k
R240 22k
R241 27k
R242 27k
R243 27k
R244 5k6
R245 5k6
R246 6k8
R247 10k
R248 10k
R249 4k7
R250 5k6
R252 5k6
R253 5k6
R254 38k3 1%
R255 22k1 1%
R256 27k
R257 27k
R258 215k 1%
R250 56k2 1%
R251 N.C
R259 22k1 1%
R260 17k4
R261 39k
R262 220k
R263 39k
R270 12k
R271 12k
R272 5k62
R273 1k0
R277 5k62
R278 22
R279 1R00
R280 274
R281 2R2
C201 2u2 35V
C202 10n
C203 4u7
C204 10n
C205 10n
C206 22n
C207 N.C
C208 47u
C209 100n
C210 47n
C211 47n
C212 680 NPO 5%
C213 0u47
C214 10n
C215 100u
C216 100n
C217 1n
C218 47n
C219 10n
C220 10n
C221 10n
C222 10n
C223 10n
C224 10n
C225 150n 5%
C226 47u
C227 100n
C228 470n
C229 220u 35V
C230 100u 50V
C231 220u 35V
C232 100n
C233 220n
C234 4n7
C235 2u2 35V
C237 1n
C238 1u0
C240 100
C241 100
C242 1n
C244 100n
C245 4u7 100V
D201 LL4148
D202 1N5818
D203 1N5818
D204 BAV21
D205 LL4148
D206 LL4148
D207 1N4002
D208 1N4148
D209 LL4148
D210 LL4148
D211 LL4148
D212 BAV21
D213 BAV103
DZ201 22V
Q201
4
8
9
10
11
12
13
14
6 VERT
HOR 5


5V
170V
64V
12V
7V (HEATER)
-13V
G1
Q202
1
2
3
4
5
6
7
8
9
10
J201
2
1

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

VERT.OUTPUT

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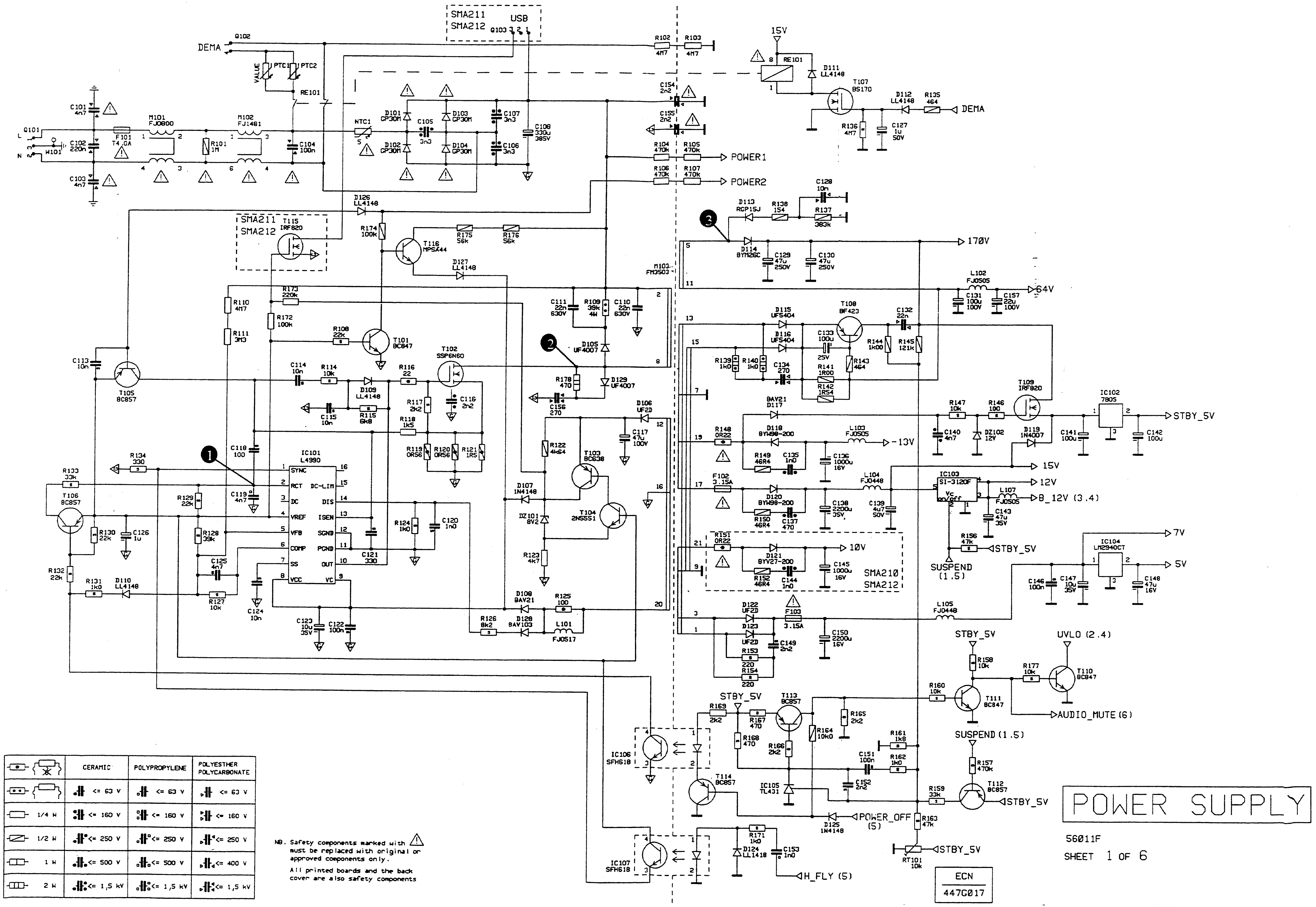
SMA211
SMA212
USB
Q103
Q102
DEMA
VALUE
PTC1
PTC2
RE101
C101 4n7
Q101
L
N
W101
C102 220n
C103 4n7
M101 FJ0800
F101 T4.0A
R101 1M
M102 FJ1481
C104 100n
NTC1
D101 GP30M
D102 GP30M
D103 GP30M
D104 GP30M
C105 3n3
C107 3n3
C106 3n3
C108 330u 385V
R102 4M7
R103 4M7
C154 2n2
C155 2n2
R104 470k
R105 470k
POWER1
R106 470k
R107 470k
POWER2
15V
RE101
D111 LL4148
T107 BS170
D112 LL4148
R135 464
DEMA
R136 4M7
C127 1u 50V
D126 LL4148
T115 IRF820
R174 100k
T116 MPSA44
R175 56k
R176 56k
D127 LL4148
C128 10n
D113 RGP15J
R138 154
R137 383k
D114 BYM26C
C129 47u 250V
C130 47u 250V
170V
M103 FM3503
L102 FJ0505
C131 100u 100V
C157 22u 100V
64V
R110 4M7
R111 3M3
R173 220k
R172 100k
R108 22k
T101 BC847
C111 22n 630V
R109 39k 4W
C110 22n 630V
D105 UF4007
D129 UF4007
D115 UF5404
D116 UF5404
T108 BF423
C132 22n
C133 100u 25V
R144 1k00
R145 121k
R139 1k0
R140 1k0
C134 270
R141 1R00
R142 1R54
R143 464
C113 10n
T105 BC857
C114 10n
R114 10k
D109 LL4148
R116 22
T102 SSP6N60
R178 470
C156 270
C115 10n
R115 6k8
R117 2k2
C116 2n2
R118 1k5
D106 UF2D
C117 47u 100V
R119 0R56
R120 0R56
R121 1R5
BAV21 D117
R147 10k
R146 100
T109 IRF820
IC102 7805
STBY_5V
C140 4n7
DZ102 12V
D119 1N4007
C141 100u
C142 100u
R148 0R22
D118 BYW98-200
L103 FJ0505
-13V
R149 46R4
C135 1n0
C136 1000u 16V
15V
R134 330
R133 33k
T106 BC857
R129 22k
C118 100
C119 4n7
IC101 L4990
SYNC
RCT
DC
VREF
VFB
COMP
SS
VCC
DC-LIM
DIS
ISEN
SGND
PGND
OUT
VC
R122 4k64
T103 BC638
D107 1N4148
DZ101 8V2
T104 2N5551
F102 3.15A
L104 FJ0448
D120 BYW98-200
R150 46R4
C137 470
C138 2200u 35V
C139 4u7 50V
IC103 SI-3120F
12V
L107 FJ0505
B_12V (3.4)
C143 47u 35V
R128 39k
R130 22k
C126 1u
C125 4n7
C121 330
R124 1k0
C120 1n0
R123 4k7
R156 47k
STBY_5V
SUSPEND (1.5)
7V
R151 0R22
D121 BYV27-200
10V
R152 46R4
C144 1n0
C145 1000u 16V
SMA210
SMA212
IC104 LM2940CT
5V
C146 100n
C147 10u 35V
C148 47u 16V
R132 22k
R131 1k0
D110 LL4148
R127 10k
C124 10n
C123 10u 35V
C122 100n
D108 BAV21
R125 100
R126 8k2
D128 BAV103
L101 FJ0517
D122 UF2D
F103 3.15A
D123 UF2D
C149 2n2
C150 2200u 16V
R153 220
R154 220
L105 FJ0448
STBY_5V
UVLO (2.4)
R158 10k
R177 10k
T110 BC847
R160 10k
T111 BC847
AUDIO_MUTE (6)
STBY_5V
R169 2k2
R167 470
T113 BC857
R165 2k2
R164 10k0
R168 470
R166 2k2
R161 1k8
R162 1k0
C151 100n
C152 2n2
IC106 SFH618
T114 BC857
IC105 TL431
SUSPEND (1.5)
R157 470k
R159 33k
T112 BC857
STBY_5V
D125 1N4148
POWER_OFF (5)
R163 47k
STBY_5V
RT101 10k
IC107 SFH618
R171 1k0
D124 LL4148
C153 1n
H_FLY (5)
1
2
3

	CERAMIC	POLYPROPYLENE	POLYESTHER POLYCARBONATE
	<= 63 V	<= 63 V	<= 63 V
1/4 W	<= 160 V	<= 160 V	<= 160 V
1/2 W	<= 250 V	<= 250 V	<= 250 V
1 W	<= 500 V	<= 500 V	<= 400 V
2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB. Safety components marked with ⚠ must be replaced with original or approved components only.

All printed boards and the back cover are also safety components

POWER SUPPLY

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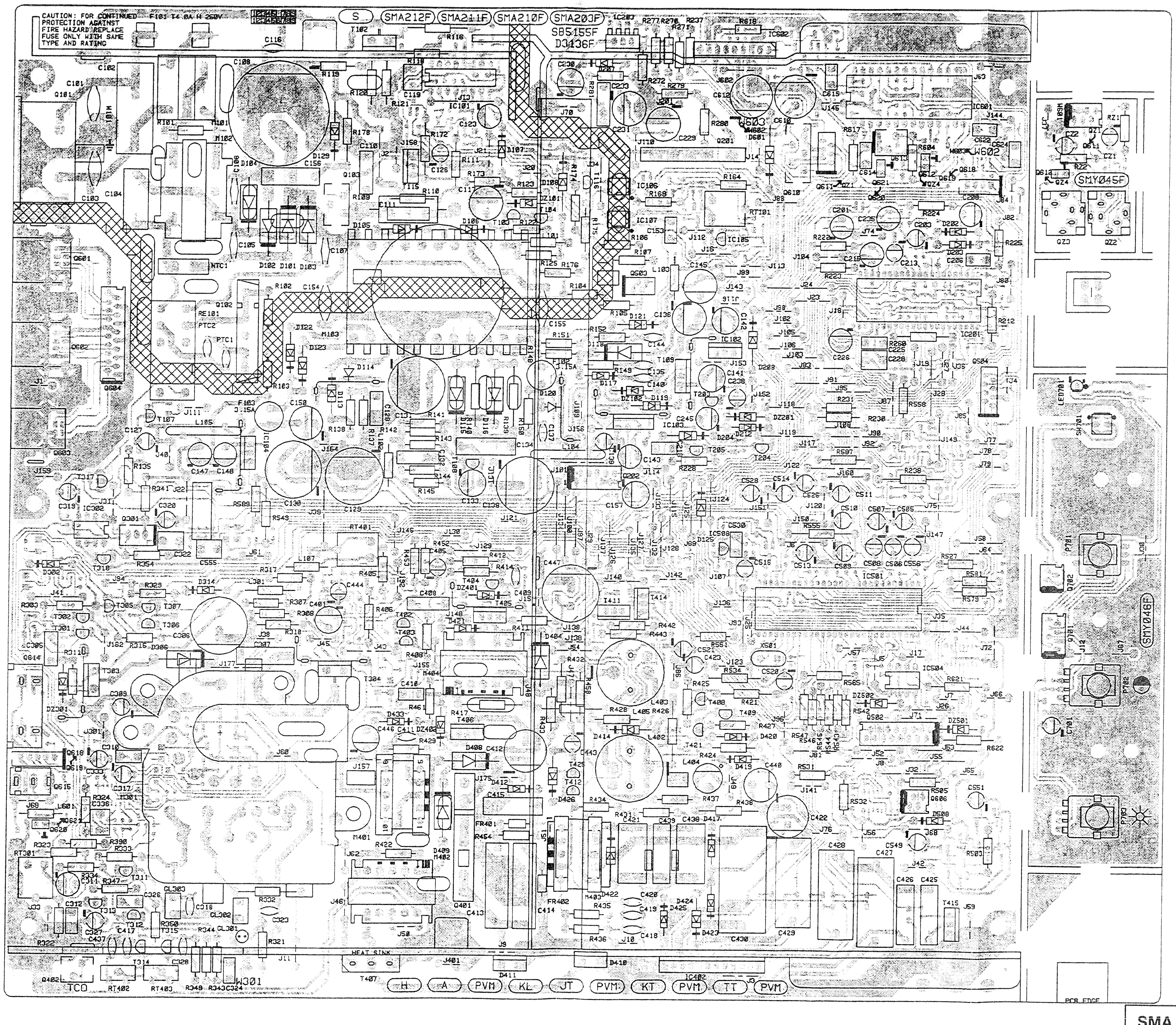
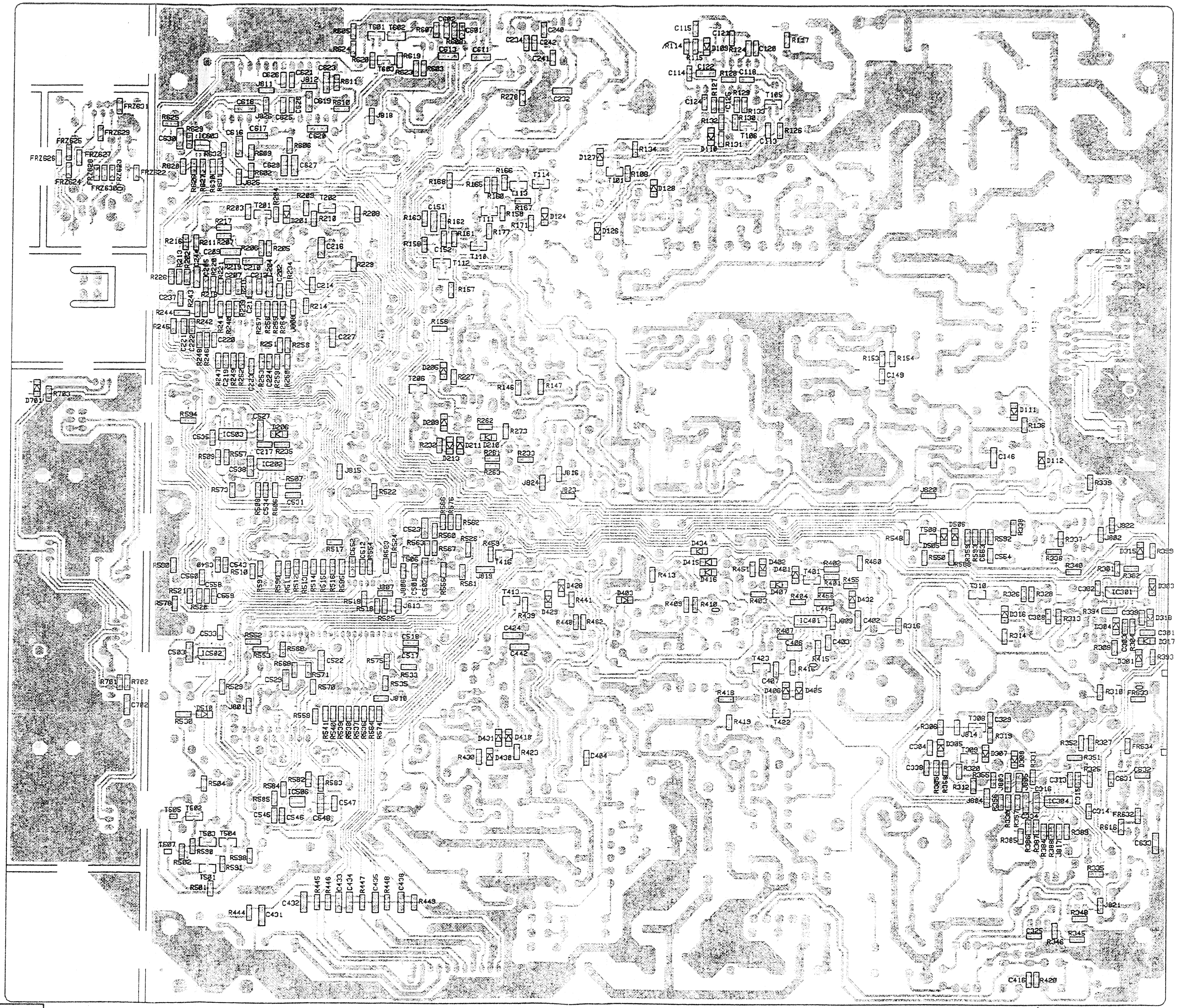
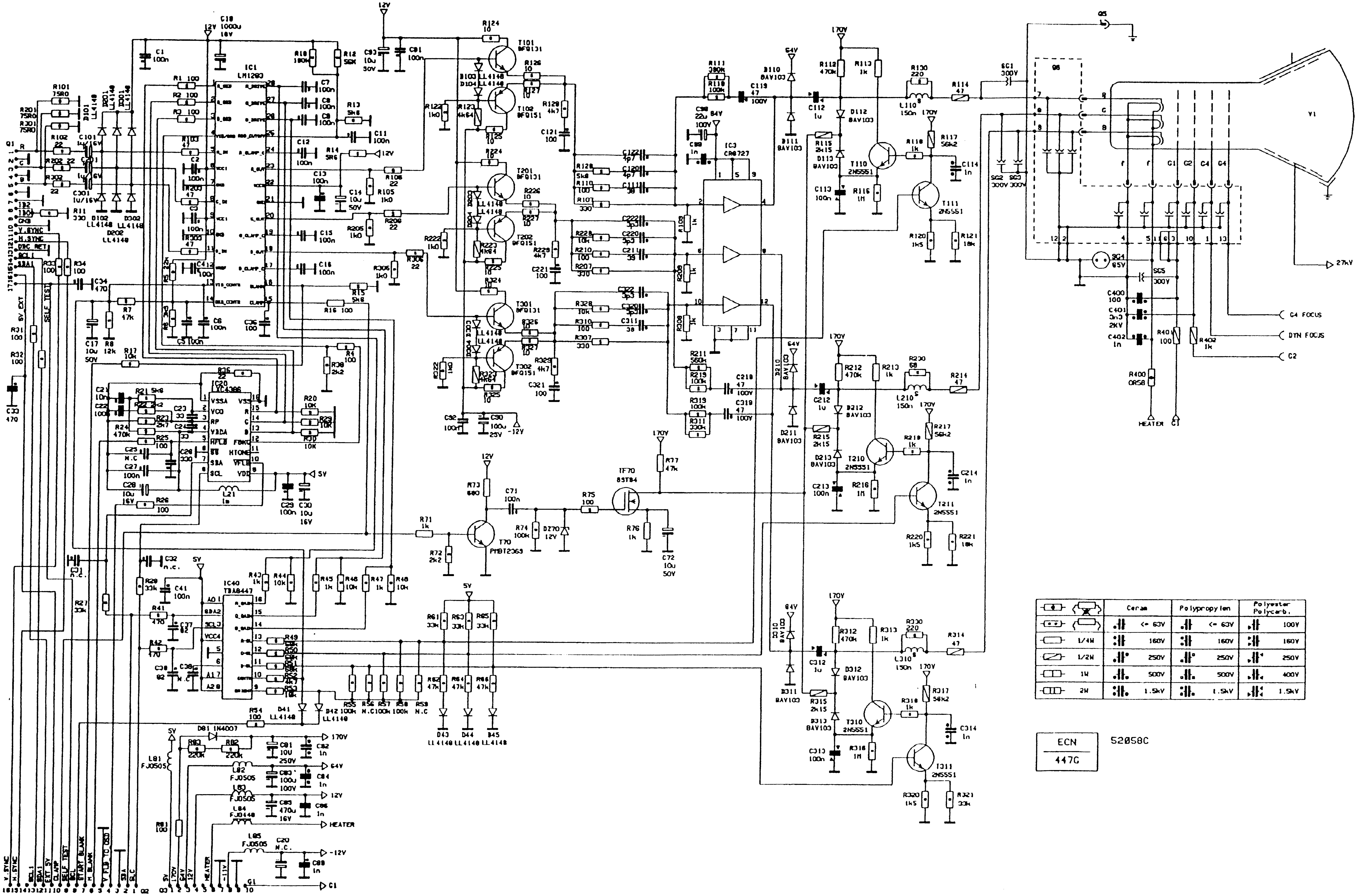

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
F101 T4.0A H 250V
S
SMA212F
SMA211F
SMA210F
SMA200F
SB5155F
D3136F
SMY045F
SMY046F
HEAT SINK
PCB EDGE
H
A
PVM
KL
JT
PVM
KT
PVM
TT
PVM
TCO
W301
W602

SMA F



Part Number	Description	PG	Item Number	
AA0649	CF RES 0W25 100R J 2,5-7	01	R	016 081
AA0673	CF RES 0W25 1K0 J 2,5-7	01	R	071 113 213 313 076 109 209 309
AA0713	CF RES 0W25 47K J 2,5-7	01	R	077
AA0737	CF RES 0W25 470K J 2,5-7	01	R	112 212 312
AB0595	NF RES 0W25 0R56 J 2,5-7 CF	01	R	400
AC3584	CHIPRES 0W1 75R 1% 0805 2013	01	R	101 201 301
AC4419	CHIPRES 0W1 5R6 5% 0805 2013	01	R	014
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	R	124 125 126 127 224 225 226 227 324 325
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	R	326 327
AC4433	CHIPRES 0W1 22R 5% 0805 2013	01	R	035 106 206 306
AC4441	CHIPRES 0W1 47R 5% 0805 2013	01	R	102 202 302
AC4445	CHIPRES 0W1 68R 5% 0805 2013	01	R	230
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	R	001 002 003 004 025 026 054 031 032
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	R	033 034 110 210 075 310
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	R	130 330
AC4461	CHIPRES 0W1 330R 5% 0805 2013	01	R	011 107 207 307
AC4465	CHIPRES 0W1 470R 5% 0805 2013	01	R	041 042
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	R	105 118 218 318 043 045 047 205 305 122
AC4473	CHIPRES 0W1 1K0 5% 0805 2013	01	R	222 322
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	01	R	120 220 320
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	R	022 072 038
AC4483	CHIPRES 0W1 2K7 5% 0805 2013	01	R	023
AC4487	CHIPRES 0W1 3K9 5% 0805 2013	01	R	006
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	R	052 129 229 329
AC4491	CHIPRES 0W1 5K6 5% 0805 2013	01	R	013 015 021 128
AC4495	CHIPRES 0W1 8K2 5% 0805 2013	01	R	008
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	R	017 020 029 030 044 046 048 328 228
AC4503	CHIPRES 0W1 18K 5% 0805 2013	01	R	053 121 221
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	R	005
AC4509	CHIPRES 0W1 33K 5% 0805 2013	01	R	061 063 065 027 028 321
AC4513	CHIPRES 0W1 47K 5% 0805 2013	01	R	007 062 064 066
AC4515	CHIPRES 0W1 56K 5% 0805 2013	01	R	012
AC4517	CHIPRES 0W1 68K 5% 0805 2013	01	R	049 050 051
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	R	119 219 319 074 055 057 058
AC4527	CHIPRES 0W1 180K 5% 0805 2013	01	R	018
AC4529	CHIPRES 0W1 220K 5% 0805 2013	01	R	082 083
AC4533	CHIPRES 0W1 330K 5% 0805 2013	01	R	311
AC4535	CHIPRES 0W1 390K 5% 0805 2013	01	R	111
AC4537	CHIPRES 0W1 470K 5% 0805 2013	01	R	024
AC4539	CHIPRES 0W1 560K 5% 0805 2013	01	R	211
AC8745	CHIPRES 0W12 1M0 J 1206 3216	01	R	116 216 316
AD0341	COMPRES 0W5 47R K 4-11	03	R	114 214 314
AD0349	COMPRES 0W5 100R K 4-11	01	R	401
AD0373	COMPRES 0W5 1K0 K 4-11	01	R	402
AG3381	MF RES 0W5 681R F TC50 2,5-7	01	R	073
AG3433	MF RES 0W5 2K15 F TC50 2,5-7	01	R	115 215 315
AG3465	MF RES 0W5 4K64 F TC50 2,5-7	01	R	123 223 323
AG3573	MF RES 0W5 56K2 F TC50 2,5-7	01	R	117 217 317
CA0350	CERCAP 3N3 K 2KV Y7,5	03	C	401
CA0324	CERCAP Y5P 100P K 1KV Y5 D8 L	02	C	400
CB3113	CHIPCERCAP NP0 3P3 50V C 0805	01	C	222 322 220 320
CB3117	CHIPCERCAP NP0 4P7 50V C 0805	01	C	120 122
CB3137	CHIPCERCAP NP0 33P 50V J 0805	01	C	023 024
CB3139	CHIPCERCAP NP0 39P 50V J 0805	01	C	111 211 311
CB3147	CHIPCERCAP NP0 82P 50V J 0805	01	C	037 038
CB3163	CHIPCERCAP NP0 330P 50V J 0805	01	C	026
CB3167	CHIPCERCAP NP0 470P 50V J 0805	02	C	034 033
CB3647	CHIPCERCAP NPO 47P 100V J 0805	01	C	119 219 319
CB3651	CHIPCERCAP NPO 100P 100V J 0805	01	C	036
CC0200	CERCAP Y5P 1N0 K 500V Y5: D9	01	C	082 084 086 099 114 214 314 402 089
CB3151	CHIPCERCAP NP0 100P 50V J 0805	01	C	121 221 321
CC3320	CHIPCERCAP X7R 10N 10% 50V 0805	01	C	021
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	C	001 002 003 004 005 006 007 008 009 011
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	C	012 013 015 016 022 027 029 041 071
CC3480	CHIP CERCAP X7R 10% 100N 25V 0805	02	C	091 092
CK0283	PESCAP MKT 100N K 250V Y5 070812	02	C	213 313 113
CK0465	PESCAP MKT 1U0 K 250V Y15 091818	04	C	112 212 312
CN0379	ELCAP' 22U M 100V RM5 :105'11*14	02	C	098
CN2032	ELCAP 10U M 50V RM5: 105' 6X12	01	C	014 017 028 030 072 093
CN2040	ELCAP 10U M 250V RM5 105' 10X16	03	C	081
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	C	101 201 301
CN2523	ELCAP 100U M 25V RM5 :105' 9*14	03	C	090
CN2546	ELCAP 100UF M 100V RM5 105' 14X21	05	C	083
CN2642	ELCAP 470U M 16V RM5: 105' 11X21	04	C	085
CN2712	ELCAP 1000U M 16V RM5: 105'11X21	05	C	018
FA0011	CHIP COIL 150NH 10% SIZE 1210	03	L	110 210 310
FJ0448	CHOKE 13UH FERRITE 2X15	02	L	084
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	L	081 082 083 085
FJ0516	CHOKE 1MH 5% TAPED AXIAL	02	L	021
JF0067	DI 1N4007 1000V 1A	01	D	081
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	D	110 111 112 113 210 211 212 213 310 311
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	D	312 313
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	D	041 042 043 044 045 101 201 301
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	D	102 202 302 103 104 203 204 303 304
JH0054	ZDI BZX83C12 12V 0.5W 5%	01	DZ	070
JM0273	TR 2N5551 NPN 160V 0,6A	02	T	111 211 311 110 210 310
JM0354	TR BFQ131 N 18V 150MA 4GHZ SOT54	04	T	101 201 301
JM0355	TR BFQ151 P 15V 100MA 3.5G SOT54	05	T	102 202 302

Part Number	Description	PG	Item Number
JM4116	TR PMBT2369 N 15V 200MA SOT-23	03	T 070
JM4305	TR BST84 N 200V 250MA 250MS SOT89	12	TF 070
LM0968	IC TDA8447 12C BUS 8BIT DAC DIL16	12	IC 040
LM0943	IC LM1283N 140MHZ RGB AMP W/OSD	17	IC 001
LM0961	IC LXC4386P2 OSD WITH OWN CHAR.	21	IC 020
LM0947	IC CR6727 150MHZ 3-CH CRT DRIVER	27	IC 003
QK1466	ROW CONN 1X17 2,54 VERT	05	Q 001
QK1605	"CRT SOCKET FOR 17"" SONY 17FRS-A1"	14	Q 006
QK1704	PICOFLEX HEADER 1X10 1,27MM	04	Q 003
QK1707	PICOFLEX HEADER 1X16 1,27MM	04	Q 002
QT0051	SURGE PROTECTOR 300V R=5,0MM RAD	10	SG 005 001 002 003
QT0217	GLIMM LAMP 65V 6*16MM	03	SG 004
UC6869	J__HD.LEVY/COOLING PLATE 447S	06	
UC6896	VIDEOKORTIN MAAJOUSI 447S	02	
UC6870	KANTALEVYN SUOJA/SHIELD 447S	07	
UC6871	KANSI/COVER 447S	11	
UG0778	SUPPORTPIN/TUKINASTA PN49951 447E	01	
WC0036	KUUS.KAN.LEVYR.UNI6950 SCREW	01	
WN0168	RIWSCREW 1712-3510	03	
XW0032	L_MP.JOHT.RASVA DOW CORNING	01	ICH 003
XW0250	SULATELIIMA JET-MELT 3796 TC	43	


IC1 LM1203
IC3 CR6727
T101 BFQ131
T102 BFQ151
T201 BFQ131
T202 BFQ151
T301 BFQ131
T302 BFQ151
T110 2N5551
T111 2N5551
T210 2N5551
T211 2N5551
T310 2N5551
T311 2N5551
T70 PMBT2369
TF70
D81 1N4007
L81 FJ0505
L82 FJ0505
L83 FJ0505
L84 FJ0448
L85 FJ0505
Y1
Q5
Q6
12V
5V
64V
170V
-12V
HEATER
G1
27kV
C4 FOCUS
DYN FOCUS
C2
V_SYNC
H_SYNC
SCL1
SDA1
EXT_5V
CLAMP
SELF TEST
SCL
START BLANK
H BLANK
V FLB TO OSD
SDA
SLC

	Ceram	Polypropylen	Polyester Polycarb.
	<= 63V	<= 63V	100V
1/4W	160V	160V	160V
1/2W	250V	250V	250V
1W	500V	500V	400V
2W	1.5kV	1.5kV	1.5kV

ECN
447G

52058C

447G

SMH147C

D3133C 09.97 Page 3

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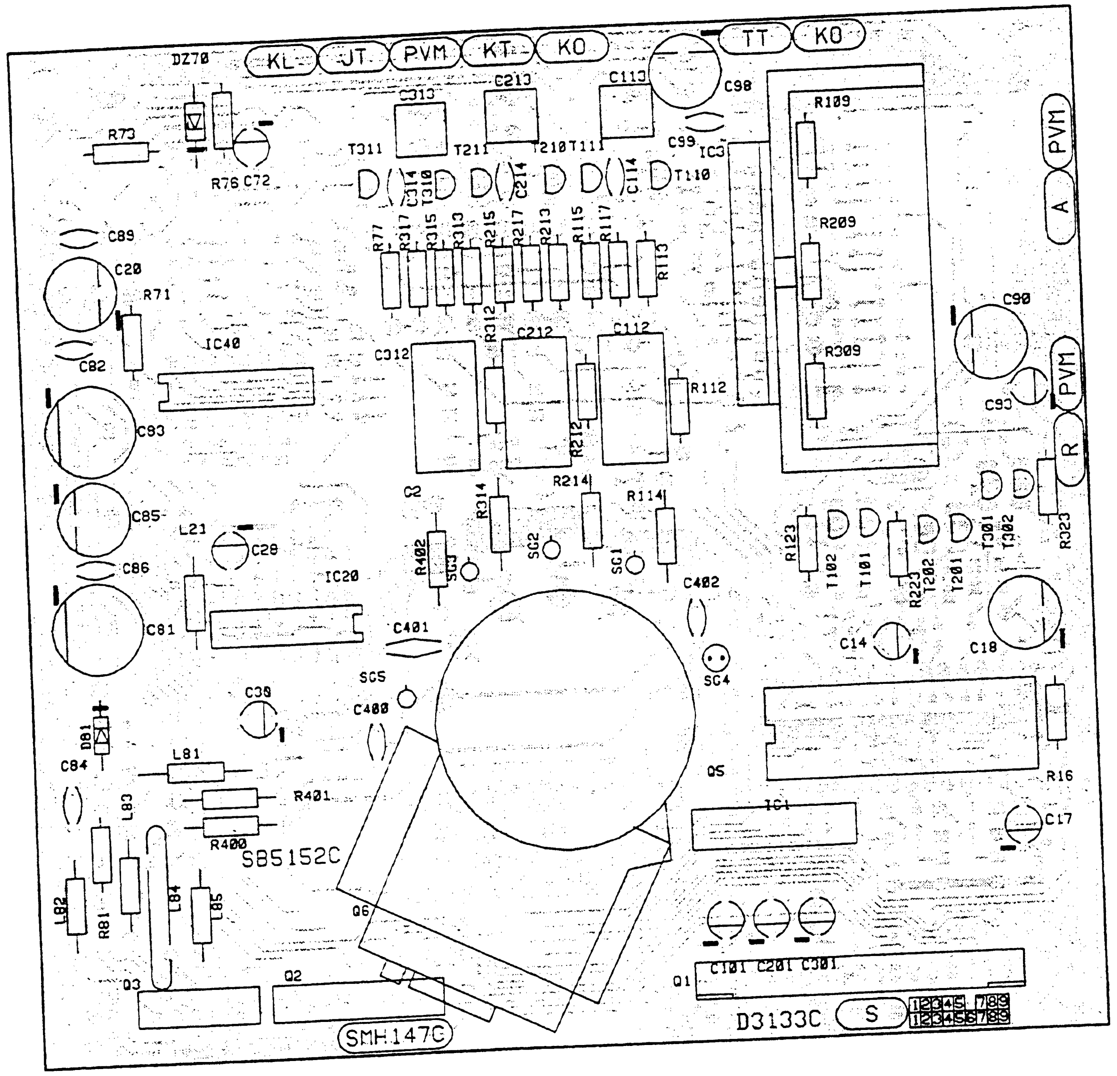
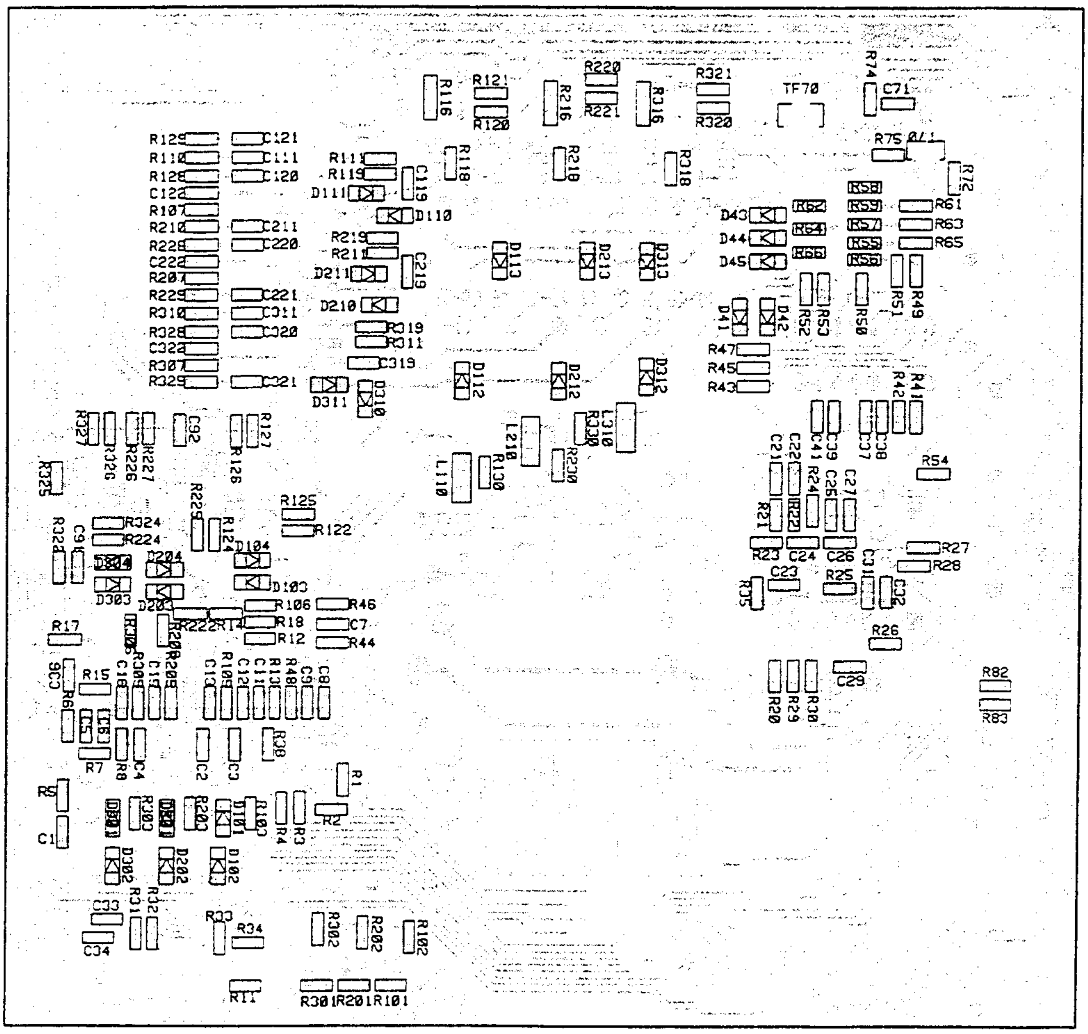
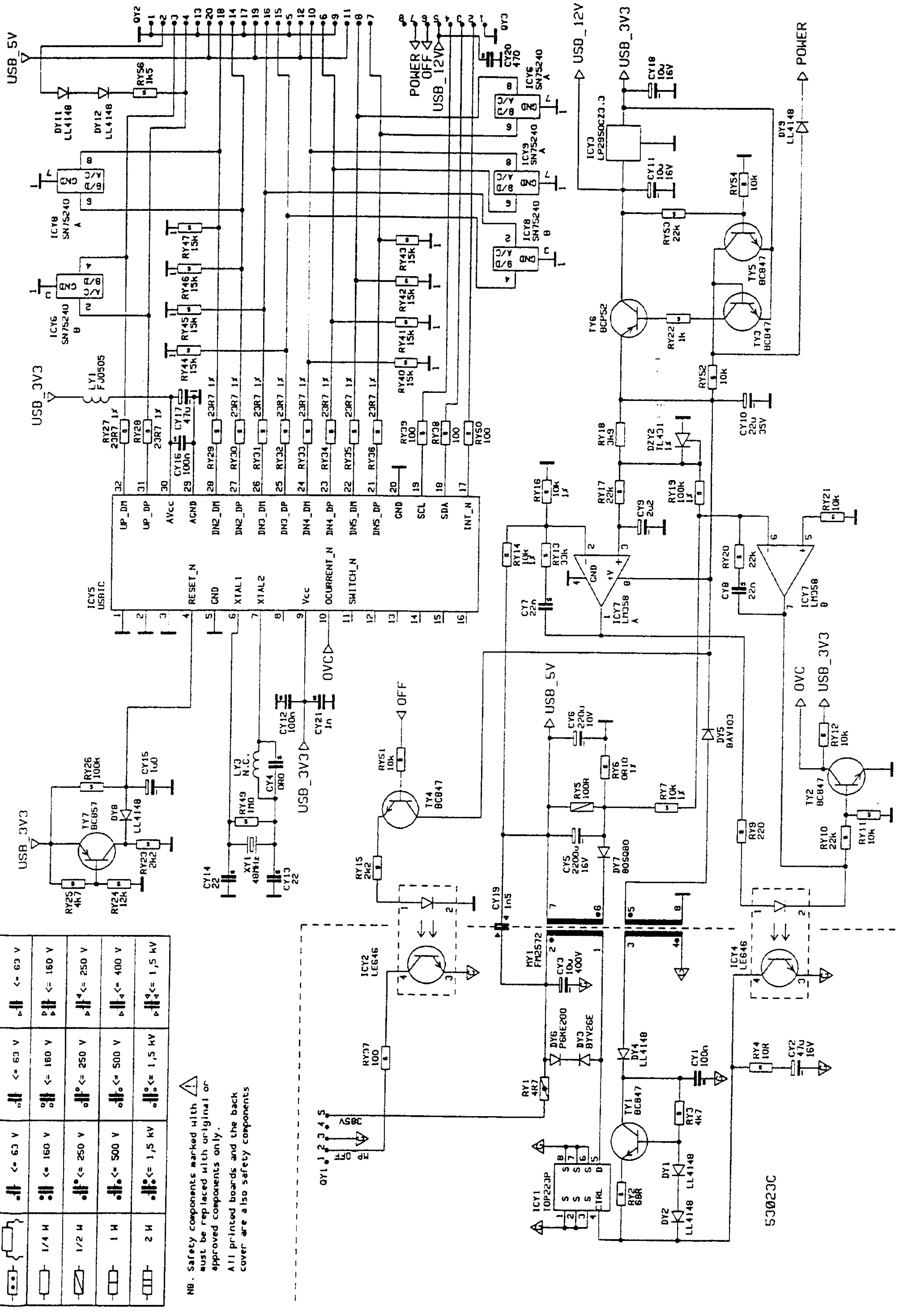

KL
JT
PVM
KT
KO
TT
KO
DZ70
R73
R76
C72
C313
C213
C113
C98
C99
IC3
T311
T211
T210
T111
T110
C314
T310
C214
C114
R77
R317
R315
R313
R215
R217
R213
R115
R117
R113
C89
C20
R71
C82
IC40
C312
R312
C212
C112
R112
R212
R109
R209
R309
PVM
A
C90
C93
PVM
R
R323
C93
C85
C86
C81
L21
C28
IC20
R314
R214
R114
R402
SC3
SC2
SC1
C402
C401
R123
T102
T101
R223
T202
T201
T301
T302
C14
C18
SC5
SC4
C38
C400
D81
C84
L81
R401
R400
L83
SB5152C
Q5
IC1
R16
C17
L82
R81
L84
L85
Q6
C101
C201
C301
Q1
Q3
Q2
SMH147C
D3133C
S


R116
R121
R120
R216
R220
R221
R316
R321
R320
TF70
R74
C71
R75
R72
R129
R110
R128
C122
R107
R210
R228
C222
R207
R229
R310
R328
C322
R307
R329
C121
C111
C120
C211
C220
C221
C311
C320
C321
R111
R119
D111
C119
D110
R118
R218
R318
R219
R211
D211
C219
D210
R319
R311
C319
D311
D310
D113
D213
D313
D112
D212
D312
D43
D44
D45
R62
R64
R66
R58
R59
R57
R55
R56
R61
R63
R65
D41
D42
R52
R53
R50
R51
R49
R47
R45
R43
R42
R41
R327
R326
R226
R227
C92
R126
R127
R325
L210
R130
L310
R330
R230
L110
C21
C22
C41
C39
C38
C37
R24
C25
C27
R21
R22
R54
R229
R124
R125
R122
R324
R224
R322
C91
D304
D204
D104
D303
D203
D103
R106
R46
R222
R14
R18
C7
R12
R44
R17
R105
R205
R305
R208
C9
C3
R15
C18
C19
C13
R109
C12
C11
R13
R48
C6
C8
R6
C5
C10
R7
R8
C4
C2
C3
R38
R1
R5
C1
D301
R303
D201
R203
D101
R103
R4
R3
R2
D302
D202
D102
R31
R32
C33
C34
R33
R34
R302
R202
R102
R11
R301
R201
R101
R23
C24
C26
R27
R28
C23
R25
C31
C32
R35
R26
C29
R20
R29
R30
R82
R83

Part Number	Description	PG	Item Number	
AA0687	CF RES 0W25 3K9 J 2,5-7	01	RY	018
AB0817	NF RES 0W5 4R7 J 4-11 CF	01	RY	001
AB0849	NF RES 0W5 100R J 4-11 CF	01	RY	005
AC3136	CHIPRES 23R7 0W1 1% 0805	01	RY	027 028 029 030 031 032 033 034 035 036
AC4400	CHIPRES 0W1 0R0 5% 0805 2013	01	CY	004
AC4425	CHIPRES 0W1 10R 5% 0805 2013	01	RY	004
AC4445	CHIPRES 0W1 68R 5% 0805 2013	01	RY	002
AC4449	CHIPRES 0W1 100R 5% 0805 2013	01	RY	038 039 050 037
AC4457	CHIPRES 0W1 220R 5% 0805 2013	01	RY	009
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	01	RY	056
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	01	RY	023
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	01	RY	025 003
AC4497	CHIPRES 0W1 10K 5% 0805 2013	01	RY	011 051 012 007 021 052 054 014 016
AC4499	CHIPRES 0W1 12K 5% 0805 2013	01	RY	024
AC4501	CHIPRES 0W1 15K 5% 0805 2013	01	RY	040 041 042 043 044 045 046 047
AC4505	CHIPRES 0W1 22K 5% 0805 2013	01	RY	010 017 020 053
AC4509	CHIPRES 0W1 33K 5% 0805 2013	01	RY	013
AC4521	CHIPRES 0W1 100K 5% 0805 2013	01	RY	026 019
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	01	RY	049
AC7000	CHIPRES 0R10 1W 1% 1218	03	RY	006
AC8581	CHIPRES 0W12 2K2 J 1206 3216	01	RY	015
AC8673	CHIPRES 0W12 1K0 J 1206 3216	01	RY	022
CB3133	CHIPCERCAP NP0 22P 50V J 0805	01	CY	013 014
CB4167	CHIPCAP NP0 470P J 50V 1206	02	CY	020
CB4175	CHIPCAP NP0 1N0 J 50V 1206	01	CY	021
CC4360	CHIPCAP X7R 22N K 50V 1206	01	CY	007 008
CC4855	CHIPCAP Y5V 100N Z 50V 1206	03	CY	012 016 001
CE0031	Y-CAP 1N5 M 250VAC Y10 040914	06	CY	019
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	02	CY	015
CN2030	ELCAP 10U M 35V RM5: LL 7*12	02	CY	011 018
CN2046	ELCAP 10U M 400V RM5 105' 13X26	04	CY	003
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	01	CY	009
CN2372	"ELCAP 22UF M 35V RM5: 105' 6X12"	03	CY	010
CN2434	ELCAP 47U M 16V RM5: 105' 6X8	03	CY	002 017
CN2576	ELCAP 220U M 16V RM5: 105'11X13	02	CY	006
CN2749	ELCAP 2200U M 16V RM5 105 14X26	04	CY	005
FJ0505	CHOKE 15UH 5% TAPED AXIAL	02	LY	001
FM2572	SMPS TRAFO FOR USB E20/6 N67 USB		MY	001
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	04	DY	003
JF0208	SCHOTTKY RECTIFIER 45V 8A 80SQ045		DY	007
JF1005	DI P6KE200A TRANSIENT SUPPR	05	DY	006
JF4003	DI BAV103 200V 250MA 50NS SOD-80	07	DY	005
JF4005	DI LL4148 75V 150MA 4N (JF4006)	01	DY	001 002 008 009 011 012 004
JL0069	OPTOCOUPLER VRMS 5KV	04	ICY	004 002
JM0244	TR BF422 N 250V 25MA 60M:	02	TY	
JM0281	TR BC368 N 20V 1A 60M:	04	TY	
JM4105	TR BC847B N 45V 0.1A SOT23	04	TY	001 002 003 004 005
JM4114	TR BC857B P 45V 100MA 150M:	02	TY	007
JM4118	TR BCP52 P 60V 1A 50MHZ SOT223	04	TY	006
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	06	DZY	002
LM0964	IC PDIUSBH11 USB HUB	21	ICY	005
LM0972	IC TOP223P PWM SWITCH 15W DIP-8	13	ICY	001
LM0973	IC LP2950CZ 3.3V TO92	10	ICY	003
LM0977	IC SN75240 USB PORT SUPPR. DIP8	07	ICY	006 008 009
LM4428	IC LM358D DUAL OP AMP SO-8	05	ICY	007
QA0096	CRYSTAL 48.00MHZ FUNDAMENT. NR-2D	19	XY	001
QK1701	PICOFLEX HEADER 1X04 1,27MM	03	QY	003
QK1709	PICOFLEX HEADER 1X20 1,27MM	05	QY	002
SE2703	USB VIRTAJOHTO 447G	04	QY	001
QK1103	IDC WIRE CONN 1X03 2,5 POL. PINS	03	002	
XS0474	BAND CABLE STRAN 3-POLE R=2,50	04	001	


USB_5V
USB_3V3
USB_12V
POWER
OFF
OVC
QY2
QY3
QY1
CY20 470
ICY6 SN75240 A
ICY6 SN75240 B
ICY8 SN75240 A
ICY8 SN75240 B
ICY9 SN75240 A
ICY3 LP2950CZ3.3
CY18 10u 16V
CY11 10u 16V
DY9 LL4148
DY11 LL4148
DY12 LL4148
RY56 1K5
RY54 10k
RY53 22k
TY5 BC847
TY3 BC847
TY6 BCP52
RY22 1k
RY52 10k
CY10 22u 35V
LY1 FJ0505
RY27 23R7 1%
RY28 23R7 1%
CY16 100n
CY17 47u
RY29 23R7 1%
RY30 23R7 1%
RY31 23R7 1%
RY32 23R7 1%
RY33 23R7 1%
RY34 23R7 1%
RY35 23R7 1%
RY36 23R7 1%
RY39 100
RY38 100
RY50 100
RY40 15k
RY41 15k
RY42 15k
RY43 15k
RY44 15k
RY45 15k
RY46 15k
RY47 15k
ICY5 USBIC
UP_DM
UP_DP
AVcc
AGND
DN2_DM
DN2_DP
DN3_DM
DN3_DP
DN4_DM
DN4_DP
DN5_DM
DN5_DP
GND
SCL
SDA
INT_N
RESET_N
XTAL1
XTAL2
Vcc
OCURRENT_N
SWITCH_N
RY18 3k9
DZY2 TL431 1%
RY16 10k 1%
RY17 22k
CY9 2u2
RY19 100k 1%
RY21 10k
RY14 10k 1%
RY13 33k
ICY7 LM358 A
ICY7 LM358 B
RY20 22k
CY7 22n
CY8 22n
CY12 100n
CY21 1n
LY3 N.C.
CY4 0R0
RY49 1M0
XY1 48MHz
CY14 22
CY13 22
RY26 100k
CY15 1u0
TY7 BC857
DY8 LL4148
RY23 2k2
RY25 4k7
RY24 12k
RY51 10k
TY4 BC847
RY15 2k2
CY6 220u 10V
RY6 0R10 1%
RY5 100R
RY7 10k 1%
DY5 BAV103
CY5 2200u 16V
DY7 80SQ80
CY19 1n5
RY12 10k
TY2 BC847
RY9 220
RY10 22k
RY11 10k
ICY2 LE646
ICY4 LE646
MY1 FM2572
CY3 10u 400V
DY6 P6KE200
DY3 BYV26E
DY4 LL4148
CY1 100n
RY4 10R
CY2 47u 16V
RY37 100
RY1 4R7
TY1 BC847
RY3 4k7
ICY1 TOP223P
RY2 68R
DY1 LL4148
DY2 LL4148
385V
STP OFF
53023C

		CERAMIC	POLYPROPYLENE	POLYESTER POLYCARBONATE
		<= 63 V	<= 63 V	<= 63 V
	1/4 W	<= 160 V	<= 160 V	<= 160 V
	1/2 W	<= 250 V	<= 250 V	<= 250 V
	1 W	<= 500 V	<= 500 V	<= 400 V
	2 W	<= 1,5 kV	<= 1,5 kV	<= 1,5 kV

NB. Safety components marked with ⚠ must be replaced with original or approved components only.
All printed boards and the back cover are also safety components

SMY040C

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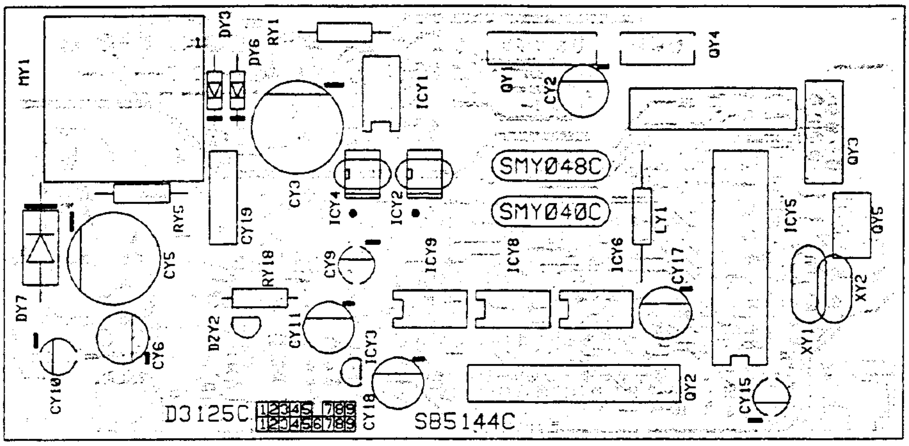
MY1
DY3
DY6
RY1
ICY1
QY1
CY2
QY4
QY3
SMY048C
SMY040C
CY3
ICY4
ICY2
RY5
CY19
LY1
ICY5
QY5
DY7
CY5
RY18
CY9
ICY9
ICY8
ICY6
CY17
XY2
XY1
DZY2
CY11
ICY3
CY6
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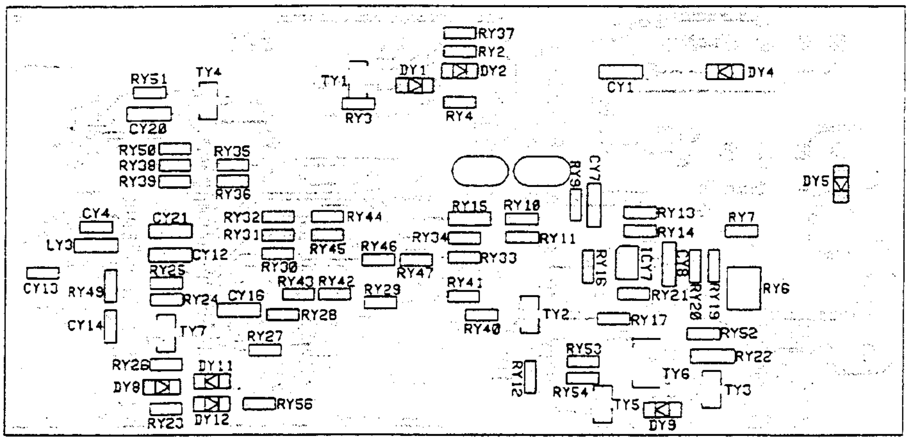
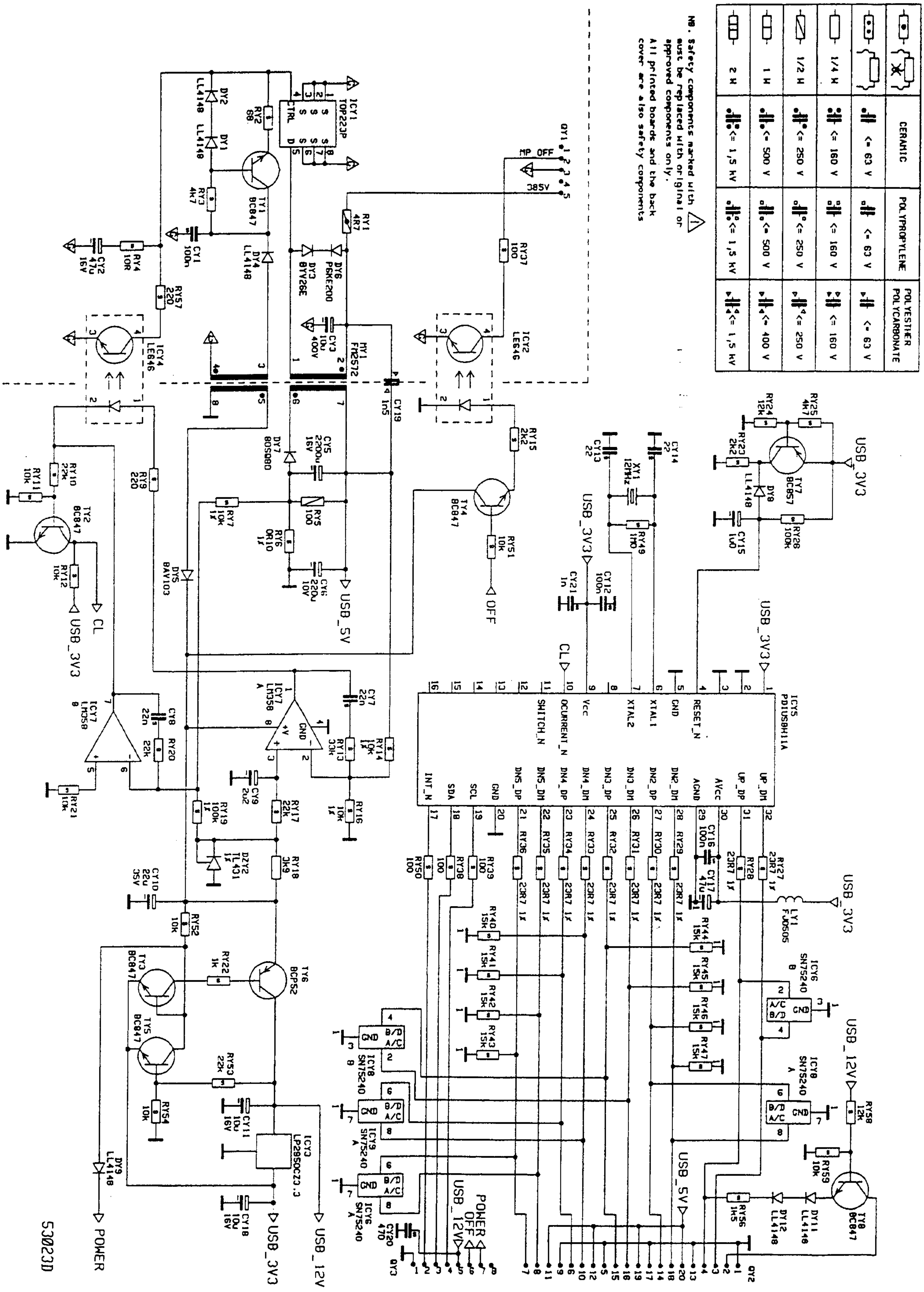
CY18
SB5144C
QY2
CY15


RY37
RY2
RY51
TY4
TY1
DY1
DY2
CY1
DY4
RY3
RY4
CY20
RY50
RY38
RY39
RY35
RY36
RY9
CY7
DY5
CY4
CY21
RY32
RY31
RY44
RY15
RY10
RY13
RY7
LY3
CY12
RY45
RY46
RY34
RY11
RY14
RY30
RY47
RY33
RY16
ICY7
RY8
RY20
RY19
RY6
CY13
RY49
RY25
RY43
RY42
RY29
RY41
RY21
RY24
CY16
RY28
TY2
RY17
CY14
TY7
RY27
RY40
RY52
RY53
RY22
RY26
DY11
RY12
TY6
TY3
DY8
RY54
TY5
RY56
DY12
RY23
DY9

Part Number	Description	PG	Item Number
AA0687	CF RES 0W25 3K9 J 2,5-7	1	RY 018
AB0817	NF RES 0W5 4R7 J 4-11 CF	1	RY 001
AB0849	NF RES 0W5 100R J 4-11 CF	1	RY 005
AC3136	CHIPRES 23R7 0W1 1% 0805	1	RY 027 028 029 030 031 032 033 034 035 036
AC4425	CHIPRES 0W1 10R 5% 0805 2013	1	RY 004
AC4445	CHIPRES 0W1 68R 5% 0805 2013	1	RY 002
AC4449	CHIPRES 0W1 100R 5% 0805 2013	1	RY 038 039 050 037
AC4457	CHIPRES 0W1 220R 5% 0805 2013	1	RY 009 057
AC4477	CHIPRES 0W1 1K5 5% 0805 2013	1	RY 056
AC4481	CHIPRES 0W1 2K2 5% 0805 2013	1	RY 023
AC4489	CHIPRES 0W1 4K7 5% 0805 2013	1	RY 025 003
AC4497	CHIPRES 0W1 10K 5% 0805 2013	1	RY 011 051 012 007 021 052 054 014 016 059
AC4499	CHIPRES 0W1 12K 5% 0805 2013	1	RY 024 058
AC4501	CHIPRES 0W1 15K 5% 0805 2013	1	RY 040 041 042 043 044 045 046 047
AC4505	CHIPRES 0W1 22K 5% 0805 2013	1	RY 010 017 020 053
AC4509	CHIPRES 0W1 33K 5% 0805 2013	1	RY 013
AC4521	CHIPRES 0W1 100K 5% 0805 2013	1	RY 026 019
AC4545	CHIPRES 0W1 1M0 5% 0805 2013	1	RY 049
AC7000	CHIPRES 0R10 1W 1% 1218	3	RY 006
AC8681	CHIPRES 0W12 2K2 J 1206 3216	1	RY 015
AC8673	CHIPRES 0W12 1K0 J 1206 3216	1	RY 022
CB3133	CHIPCERCAP NP0 22P 50V J 0805	1	CY 013 014
CB4167	CHIPCAP NP0 470P J 50V 1206	2	CY 020
CB4175	CHIPCAP NP0 1N0 J 50V 1206	1	CY 021
CC4360	CHIPCAP X7R 22N K 50V 1206	1	CY 007 008
CC4855	CHIPCAP Y5V 100N Z 50V 1206	3	CY 012 016 001
CE0031	Y-CAP 1N5 M 250VAC Y10 040914	6	CY 019
CN2017	ELCAP 1U0 M 50V RM5: 105' 6X12	2	CY 015
CN2030	ELCAP 10U M 35V RM5: LL 7*12	2	CY 011 018
CN2046	ELCAP 10U M 400V RM5 105' 13X26	4	CY 003
CN0204	ELCAP 2U2 M 50V RM5 : 6*12	1	CY 009
CN2372	"ELCAP 22UF M 35V RM5; 105' 6X12"	3	CY 010
CN2434	ELCAP 47U M 16V RM5: 105' 6X8	3	CY 002 017
CN2576	ELCAP 220U M 16V RM5: 105'11X13	2	CY 006
CN2749	ELCAP 2200U M 16V RM5 105 14X26	4	CY 005
FJ0505	CHOKE 15UH 5% TAPED AXIAL	2	LY 001
FM2572	SMPS TRAFO FOR USB E20/6 N67 USB		MY 001
JF0032	DI UF4007 1000V 1A 75N DO41/SOD57	4	DY 003
JF0208	SCHOTTKY RECTIFIER 45V 8A 80SQ045		DY 007
JF1005	DI P6KE200A TRANSIENT SUPPR	5	DY 006
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DY 005
JF4005	DI LL4148 75V 150MA 4N (JF4006)	1	DY 001 002 008 009 011 012 004
JL0069	OPTOCOUPLER VRMS 5KV	4	ICY 004 002
JM0244	TR BF422 N 250V 25MA 60M:	2	TY
JM0281	TR BC368 N 20V 1A 60M:	4	TY
JM4105	TR BC847B N 45V 0.1A SOT23	4	TY 001 002 003 004 005 008
JM4114	TR BC857B P 45V 100MA 150M:	2	TY 007
JM4118	TR BCP52 P 60V 1A 50MHZ SOT223	4	TY 006
LM0663	IC TL431 VOLTAGE REFERENCE TO-92	6	DZY 002
LM0964	IC PDIUSBH11A USB HUB	21	ICY 005
LM0972	IC TOP223P PWM SWITCH 15W DIP-8	13	ICY 001
LM0973	IC LP2950CZ 3.3V TO92	10	ICY 003
LM0977	IC SN75240 USB PORT SUPPR. DIP8	7	ICY 006 008 009
LM4428	IC LM358D DUAL OP AMP SO-8	5	ICY 007
QA0099	CRYSTAL 12.0 MHZ HC-49/U	10	XY 001
QK1701	PICOFLEX HEADER 1X04 1,27MM	3	QY 003
QK1709	PICOFLEX HEADER 1X20 1,27MM	5	QY 002
QK1717	SOLDER SUPPORT FOR CABLE 3-POS	5	QY 004
SE2703	USB VIRTAJOHTO 447G	4	QY 001
QK1103	IDC WIRE CONN 1X03 2,5 POL. PINS	3	002


ICY1 TOP223P
CTRL S S S S D
RY2 68
DY2 LL4148
DY1 LL4148
RY3 4k7
TY1 BC847
CY1 100n
RY4 10R
CY2 47u 16V
DY4 LL4148
DY3 BYV26E
DY6 P6KE200
RY1 4R7
CY3 10u 400V
MY1 FM2572
RY57 220
ICY4 LE646
ICY2 LE646
QY1
MP_OFF
385V
RY37 100
CY19 1n5
DY7 BGS08D
CY5 2200u 16V
RY5 100
RY6 0R10 1%
RY7 10k 1%
CY6 220u 10V
USB_5V
RY15 2k2
TY4 BC847
RY51 10k
OFF
RY9 220
RY10 22k
RY11 10k
TY2 BC847
RY12 10k
USB_3V3
CL
DY5 BAV103
ICY7 LM358 A
ICY7 LM358 B
CY7 22n
CY8 22n
RY20 22k
RY13 33k
RY14 10k 1%
RY16 10k 1%
RY17 22k
RY19 100k 1%
RY21 10k
CY9 2u2
DZY2 TL431
RY18 3k9
CY10 22u 35V
RY52 10k
RY22 1k
TY3 BC847
TY5 BC847
TY6 BCP52
RY53 22k
RY54 10k
CY11 10u 16V
ICY3 LP2950CZ3.3
CY18 10u 16V
DY9 LL4148
POWER
USB_12V
SJ023D
CY13 22
CY14 22
XY1 12MHz
RY49 1M0
CY12 100n
CY21 1n
ICY5 PDIUSBH11A
RESET_N GND XTAL1 XTAL2 Vcc OCURRENT_N SWITCH_N
UP_DM UP_DP AVcc AGND DN2_DM DN2_DP DN3_DM DN3_DP DN4_DM DN4_DP DN5_DM DN5_DP GND SCL SDA INT_N
CY16 100n
CY17 47u
RY27 23R7 1%
RY28 23R7 1%
RY29 23R7 1%
RY30 23R7 1%
RY31 23R7 1%
RY32 23R7 1%
RY33 23R7 1%
RY34 23R7 1%
RY35 23R7 1%
RY36 23R7 1%
RY38 100
RY39 100
RY50 100
RY40 15k
RY41 15k
RY42 15k
RY43 15k
RY44 15k
RY45 15k
RY46 15k
RY47 15k
LY1 FJ0505
RY23 2k2
RY24 12k
RY25 4k7
TY7 BC857
DY8 LL4148
CY15 1u0
RY26 100k
ICY6 SN75240 A
ICY6 SN75240 B
ICY8 SN75240 A
ICY8 SN75240 B
ICY9 SN75240 A
GND A/C B/D
CY20 470
POWER OFF
RY58 12k
RY59 10k
TY8 BC847
DY11 LL4148
DY12 LL4148
RY56 1k5
QY2
QY3
CERAMIC
POLYPROPYLENE
POLYESTHER POLYCARBONATE
1/4 W
1/2 W
1 W
2 W
<= 63 V
<= 160 V
<= 250 V
<= 400 V
<= 500 V
<= 1,5 kV

NB. Safety components marked with △ must be replaced with original or approved components only.
All printed boards and the back cover are also safety components

447G

SMY040D

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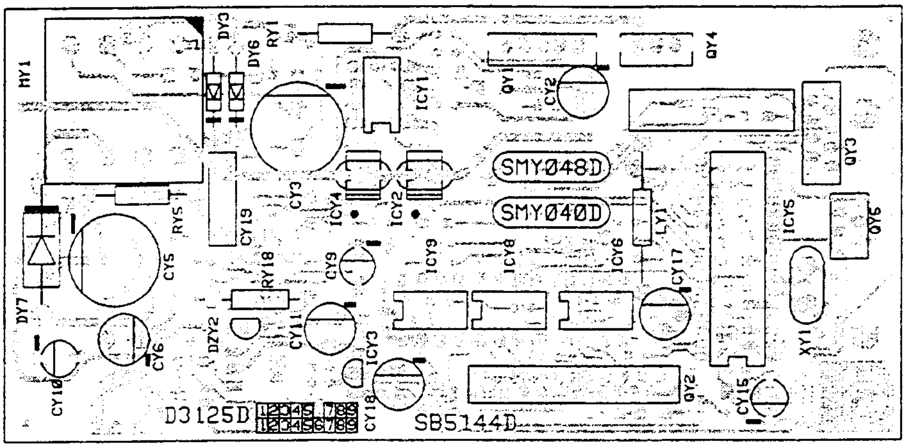
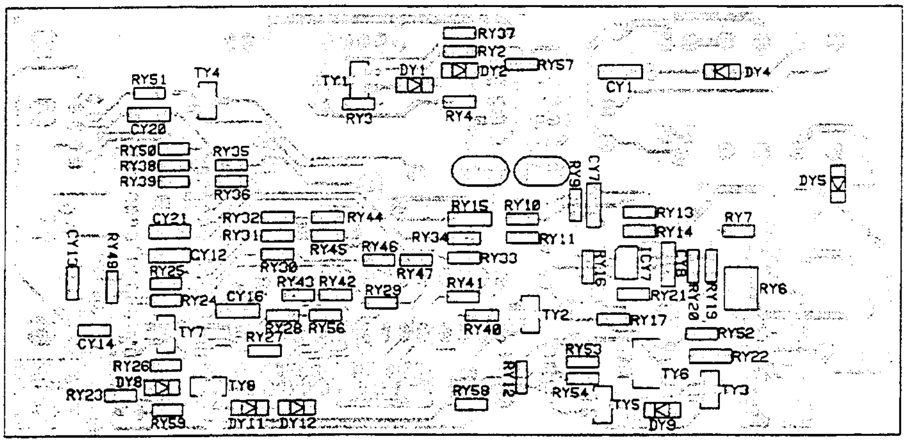

HY1
DY3
DY6
RY1
ICY1
QY1
CY2
QY4
CY3
ICY4
ICY2
SMY048D
SMY040D
LY1
ICY5
QY3
QY6
RY5
CY19
DY7
CY5
RY18
CY9
ICY9
ICY8
ICY6
CY17
DZY2
CY11
ICY3
CY6
CY10
D3125D
CY18
SB5144D
QY2
CY15
XY1


RY37
RY2
RY57
DY1
DY2
TY1
DY4
CY1
RY51
TY4
RY3
RY4
CY20
RY50
RY38
RY39
RY35
RY36
RY9
CY7
DY5
CY21
RY32
RY31
RY44
RY15
RY10
RY13
RY14
RY7
RY34
RY11
CY13
RY48
RY45
RY46
RY33
CY12
RY25
RY30
RY47
RY16
ICY7
RY19
RY24
CY16
RY43
RY42
RY29
RY41
RY21
RY20
RY6
TY7
RY28
RY56
RY40
TY2
RY17
CY14
RY27
RY52
RY22
RY53
RY26
TY6
DY8
TY8
RY12
RY23
RY58
RY54
TY5
TY3
RY59
DY11
DY12
DY9